Garching

Max-Planck-Institut für extraterrestrische Physik

Giessenbachstraße, D-85748 Garching
Tel.: (0 89) 30000-0; Telefax: (0 89) 30000-3569
e-Mail: mpe@mpe.mpg.de; WWW: http://www.mpe.mpg.de

1 Einleitung

Das Max-Planck-Institut für extraterrestrische Physik (MPE) befaßte sich 2015 mit grundlegenden Themen der Astrophysik, die sich folgenden großen Wissenschaftsbereichen zuordnen lassen: (i) *Astrochemie, Gas und Staubprozesse im Interstellaren Medium*, (ii) *Entstehung von Sternen und Planetensystemen*, (iii) *Kompakte Objekte*, (iv) *Galaktisches Zentrum*, (v) *Aktive Galaxien*, (vi) *Galaxienentstehung und -entwicklung*, (vii) *Galaxienhaufen und Großräumige Struktur*, (viii) *Kosmologie und Dunkle Energie*.

Dabei werden überwiegend experimentelle Methoden angewandt, aber auch theoretische Untersuchungen durchgeführt. Der Name des Instituts bezieht sich einerseits auf den Gegenstand der Forschung: die Physik des Weltraums, andererseits auf die Forschungsmethoden: viele unserer Experimente werden notwendigerweise oberhalb der dichten, absorbierenden Erdatmosphäre mit Flugzeugen, Raketen, Satelliten und Raumsonden durchgeführt. In zunehmendem Maße setzen wir aber, vor allem im optischen, im Infrarotbereich und in der Astrochemie, auch Instrumente an erdgebundenen Teleskopen ein.

Methodisch lassen sich die Forschungsaktivitäten des MPE in mehrere Bereiche einteilen. In der beobachtenden Astrophysik, für die am MPE innovative Instrumente gebaut werden, wird die Strahlung entfernter Objekte mit Teleskopen in den Millimeter/Submillimeter-, Infrarot-, Optischen-, Röntgen- und Gammaspektralbereichen gemessen. Der hierbei überdeckte Teil des elektromagnetischen Spektrums umfasst mehr als zwölf Dekaden. Die untersuchten Objekte reichen von nahen Kometen bis zu den fernsten Quasaren, von winzigen Neutronensternen bis zu Galaxienhaufen, den größten bekannten Formationen im Kosmos. Theoretische Arbeiten liefern die Grundlagen zum Verständnis und Interpretation der Beobachtungen und Messungen. Die direkte Wechselwirkung von Beobachtern, Experimentatoren und Theoretikern im Hause ist ein Merkmal unseres Arbeitsstils und führt oft im direkten Wechselspiel von Hypothesen und Beobachtungstatsachen zu einem frühen Erkennen von Zusammenhängen und damit zu einer früzeitigen Identifikation vielversprechender neuer Forschungsrichtungen. Ergänzt werden unsere Forschungsaktivitäten durch Experimente im Labor, mit denen sowohl die aus Theorie und Beobachtungen gewonnenen Ergebnisse überprüft als auch Informationen und Erkenntnisse gewonnen werden, die wiederum in theoretische Modelle und die Dateninterpretation einfliessen.

Eine technologische Einrichtung des MPE ist von besonderer Bedeutung: Die 130 m lange Vakuumanlage *Panter* zum Test von Röntgenteleskopen in Neuried bei München. Fast alle röntgenastronomischen Experimente oder Teile davon wurden in dieser Anlage getestet.

Unter anderem durch diese Einrichtung findet ein Transfer von neuen Verfahren und Methoden in die industrielle Anwendung statt. Im Rahmen unserer Transferaktivitäten hielt das MPE 10 Patente am Ende von 2015.

Neben der Forschung nimmt unser Institut auch universitäre Ausbildungsaufgaben wahr. Mehr als zehn MPE-Wissenschaftler sind als Hochschullehrer an zahlreichen Universitäten tätig und betreuen studentische Forschungsarbeiten, wie z.B. Bachelor-, Master- und Doktorarbeiten. Die Mehrzahl davon an den beiden Münchner Universitäten, aber auch an anderen deutschen Hochschulen und sogar im Ausland. Darüber hinaus veranstalten wir spezielle Seminare und Symposien zu den im Institut behandelten Forschungsgebieten, häufig in Zusammenarbeit mit Universitätsinstituten. Unsere sehr erfolgreiche „International Max-Planck Research School (IMPRS) on Astrophysics“ an der Ludwig-Maximilians-Universität (LMU) München brachte eine wesentliche Intensivierung der Doktorandenausbildung im Raum Garching/München. An dieser im Jahre 2000 gegründeten „Graduate School“ sind neben unserem Institut und dem Max-Planck-Institut für Astrophysik (MPA) noch das Institut für Astronomie und Astrophysik der LMU und die Europäische Südsternwarte beteiligt. Mit typisch 70 Doktoranden in diesem Programm, wovon etwa 25 am MPE arbeiten, gehört die IMPRS on Astrophysics zu den größten Einrichtungen dieser Art weltweit.

2 Personal und Ausstattung

2.1 Personalstand

Direktoren:

Prof. Dr. R. Genzel (Geschäftsführung), Infrarot- und Submillimeter-Astronomie; Prof. Dr. R. Bender, Optische und Interpretative Astronomie; Prof. Dr. P. Caselli, Zentrum für Astrochemische Studien; Prof. Dr. K. Nandra, Hochenergie-Astrophysik; Prof. Dr. G. Haerendel (emeritiert); Prof. Dr. R. Lüst (emeritiert); Prof. Dr. G. Morfill (emeritiert); Prof. Dr. K. Pinkau (emeritiert); Prof. Dr. J. Trümper (emeritiert).

Auswärtige wissenschaftliche Mitglieder:

Prof. Dr. E. van Dishoeck (Universität Leiden, Niederlande); Prof. Dr. V. Fortov (IHED, Moskau, Russland); Prof. Dr. J. Kormendy (University of Texas at Austin, USA); Prof. Dr. R. Z. Sagdeev (University of Maryland, College Park, USA); Prof. Dr. M. Schmidt (CALTECH, Pasadena, USA); Dr. Karl Schuster (IRAM, Grenoble, Frankreich); Prof. Dr. Y. Tanaka (JSPS, Bonn; MPE, Deutschland); Prof. Dr. C. H. Townes (UC Berkeley, USA).

Fachbeirat:

Prof. Dr. J. Bergeron (Institute d'Astrophysique de Paris, Frankreich); Prof. Dr. M. Colless (Austrialian Astronomical Observatory, Australien); Prof. Dr. N. Evans (University of Texas at Austin, USA); Prof. Dr. K. Freeman (Mt. Stromlo Observatory, Australien); Dr. N. Gehrels (NASA/GSFC, Greenbelt, USA); Prof. Dr. F. Harrison (CALTECH, USA); Prof. Dr. R. Kennicutt (University of Cambridge, UK); Prof. Dr. E. Quataert (University of California Berkeley, USA); Prof. Dr. G. Stacey (Cornell University, USA).

Fachübergreifende Fachbeiräte:

Prof. Dr. G. Anton (Universität Erlangen-Nürnberg, Deutschland); Prof. Dr. M. Perryman (ESA/ESTEC, Niederlande).

Kuratorium:

Dr. L. Baumgarten (ehemaliges Vorstandsmitglied DLR); Prof. Dr. A. Bode (Vizepräsident TU München); J. Breitkopf (Kayser-Threde GmbH, München); H-J. Dürrmeier (ehemalig Süddeutscher Verlag, München); Prof. Dr. W. Glatthaar (ehemaliger Präsident der Universität Witten/Herdecke, Stuttgart, Kuratoriumsvorsitzender); Min. Dirig. Dr. G. Gruppe (Bayerisches Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie,

München); Prof. Dr. B. Huber (Rektor der LMU München); Dr. M. Mayer (ehemaliges Mitglied des Bundestages, Höhenkirchen); Min.Dir. J. Meyer (Bundesministerium für Wirtschaft und Technologie, Berlin); Prof. Dr. E. Rohkamm (Blohm & Voss GmbH, Hamburg).

Wissenschaftliche Mitarbeiter und Angestellte

A. Infrarot-und Sub-mm-Astronomie

Dipl.-Ing. A. Agudo Berbel, Dr. K. Bandara, Dr. S. Belli, Dr. S. Berta, Dr. T. Bisbas, Dr. N. Blind, Dr. S. Bruderer, Dr. L. Burtscher, Dr. P. Buschkamp, Dr. A. Contursi, Dr. R. Davies, S. Dengler, Dr. J.A. de Jong, Dr. J. Dexter, Dr. V. Doublier Pritchard, Dr. F. Eisenhauer, Dr. S. Faccini, Dr. D. Fedele, Dipl.-Phys. H. Feuchtgruber, Dr. N. Förster Schreiber, Dr. S. Gillessen, Dr. J. Grácia Carpio, Dr. M. Habibi, Dr. M. Hartl, S. Harai-Ströbl, Dr. R. Herrera-Camus, A. Kleiser, Dr. J. Kurk, Dr. D. Lutz, Dr. T. Müller, Dr. G. Orban de Xivry, S. Osterhage, Dr. T. Ott, Dr. O. Pfuhl, Dr. S. Rabien, Dr. D. Rosario, Dr. A. Schruba, Dr. E. Sturm, Dr. K. Tadaki, Dr. L. Tacconi, Dr. E. Wisnioski, Dr. E. Wuyts, Dr. S. Wuyts, Dipl.-Phys. S. Yazici, J. Zanker-Smith.

Doktoranden (D)/Master (M):

D. Cazzoletti (D.), D. Gräff (M.), A. Janssen (D.), P. Lang (D.), M.-Y. Lin (D.), M. Lippa (D.) N. Murillo (D.), P. Plewa (D.), S. Schmalzl (M.), E. Sicheneder (M.), H. Übler (D.), I. Waisberg (D.).

B. Hochenergie-Astrophysik

Dr. R. Andritschke, Prof. Dr. W. Becker, B. Boller, Prof. Dr. T. Boller, Dr. H. Bräuninger, Dr. H. Brunner, Dr. W. Burkert, Dr. V. Burwitz, Dr. S. Carpano, Dr. J. Chen, Dr. J. Chichuan, Dr. N. Clerc, Dr. W. Collmar, Dr. B. De Marco, Dr. A. Del Moro, Dr. K. Dennerl, Prof. Dr. R. Diehl, Dr. T. Dwelly, Dr. T. Elbs, Dipl.-Ing. J. Eder, V. Emberger, L. Englert, Dr. T. Eraerds, W. Frankenhuizen, Dr. M. Freyberg, Dr. P. Friedrich, Dr. M. Fürmetz, R. Gaida, Dr. A. Georgakakis, Dr. J. Graham, Dr. J. Greiner, Dr. A. Gueguen, Dr. F. Haberl, K. Hartmann, Dipl.-Math. G. Hartner, G. Hauser, Dr. A. von Kienlin, Dr. T. Kruehler, Dr. N. Meidinger, Dr. A. Merloni, Dr. D. Moch, Dipl.-Phys. E. Pfeffermann, Dr. G. Ponti, Dr. M. Porro, Dr. P. Predehl, Dr. L. Proserpio, Dr. A. Rau, Dr. J. Sanders, Dr. P. Schady, Dr. S. Schlee, Dr. W. Treberspurg, S. Walther, Dr. G. Weidenspointner, Dr. R. Yates, Dr. X.-L. Zhang.

Doktoranden (D)/Master (M):

A. Augenstein (M.), A. Bähr (D.), L. Bauer (M.), M.G. Bernhardt (D.), J. Bodensteiner (M.), J. Bolmer (M.), J. Buchner (D.), D. Coffey (D.), C. Delvaux (D.), M. Ghaempanah (D.), P. Heisemann (M.), F. Hofmann (D.), L.-T. Hsu (D.), F. Knust (D.), D. Kroell (D.), E. Madaraz (M.), P. Maggi (D.), G. Mantovani (D.), B. Menz (D.), M.-L. Menzel (D.), M. Mirkazemi (D.), J. Müller-Seidlitz (D.), J. Riedl (D.), T. Schweyer (M.), T. Siegert (D.), T. Simm (D.), M. Tanga (D.), K. Toelge (M.), K. Varela (D.), G. Vasilopoulos (D.), P. Wiseman (D.), H.-F. Yu (D.).

C. Optische und Interpretative Astronomie

Dr. A. Beifiori, Dr. A. Bode, Dr. C. Bodendorf, Prof. Dr. H. Böhringer, Dipl.-Phys. A. Bohnet, Dr. A. Brucalassi, Dr. P. Erwin, Dr. D. Farrow, Dr. A. Galametz, Dr. N. Geis, Prof. Dr. O. Gerhard, O. Goldenbogen, Dr. F. Grupp, I. Hartung, Dr. U. Hopp, C. Ingram, Dr. R. Katterloher, Dr. J. Koppenhöfer, Dr. X. Mazzalay, Dr. T. Mendel, Dr. F. Montesano, Dr. B. Muschielok, B. Niebisch, M.Sc. D. Penka, M. Neumann, Dr. F. Raison, Dr. R. Saglia, Dr. A. Sanchez, Dr. J. Snigula, Dr. J. Thomas, Dr. C. Wegg, I. Weiss. Prof. Dr. J. Weller, Dipl.-Ing. C. Wimmer.

Doktoranden (D)/Master (M):

M. Blana (D.), J. Chan (D.), S. Chatzopolous (D.), F. Finozzi (D.), M. Fossati (D.), J. Grieb (D.), M. Häuser (D.), H. Kellermann (D.), M. Kodric (D.), S. Kulkarni (D.), M. Lippich (M.), A. Longobardi (D.), C. Obermaier (D.), M. Opitsch (D.), M. Portail (D.),

C. Pulsoni (D.), G. Rosotti (M.), S. Rudkee (M.), S. Salazar-Albornoz (D.), T. Simm (M.), I. Söldner-Rembold (D.).

D. Zentrum für Astrochemische Studien

Dr. C. Agurto Gangas, Dr. F. Alves de Oliveira, Dr. J. Bailey, Dr. N. Bailey, Dr. L. Bizzocchi, Dr. R. Choudhury, Dr. M. Egner Goto, Dr. D. Fedele, Dr. S. Feng, Dr. B.M. Giuliano, Dr. S. Hocuk, Dr. A. Ivlev, Dr. R. Kompaneets, Dr. J. Laas, Dr. V. Lattanzi, Dr. J. Pineda Fornerod, Dr. A. Pon, Dr. B. Riaz, Dr. T. Röcker, Dr. O. Sipilä, Dr. S. Spezzano, Dr. L. Szücs, Dr. W. Thi, Dr. A. Vasyunin, Dr. B. Zhao, Dr. S. Zhdanov.

Doktoranden (D)/Master (M):

A. Chacon (D.), A. Punanova (D.), Sokolov (D.).

E. Unabhängige Forschungsgruppen

a) Forschungsgruppe Prof. Dr. A. Burkert

Dr. C. Alig, Prof. Dr. A. Burkert, Dr. K. Fierlinger, Dr. J. Go.

Doktoranden (D)/Master (M):

J. Abbellah (D.), A. Ballone (D.), M. Behrendt (D.).

b) Forschungsgruppe Prof. Dr. J. Mohr

Dr. M. Klein, Prof. Dr. J. Mohr.

Doktoranden (D)/Master (M):

N. Gupta (D.).

F. Ingenieurbereiche und Werkstätten

a) Elektrotechnik

Dipl.-Ing. S. Albrecht, Dipl.-Ing. (FH) L. Barl, Dipl.-Ing. (FH) W. Bornemann, Dipl.-Ing. (FH) T. Burghardt, M.Sc. A. Buron, H. Cibooglu, D. Coutinho, A. Emslander, R. Gressmann, Dipl.-Ing. (FH) O. Hälker, Dipl.-Ing. (FH) O. Hans, M. Hengmith, Dipl.-Ing. (FH) S. Kellner, Dipl.-Ing. (FH) W. Kink, A. Koch, S. Krämer, P. Langer, Dipl.-Ing. (FH) S. Müller, F. Oberauer, Dipl.-Ing. (FH) S. Ott, H. Özdemir, Dr. M. Plattner (Leitung), Dipl.-Ing. (FH) C. Rau, Dipl.-Ing. (FH) J. Reiffers, P. Reiss, M. Schitcu, M. Schneider, F. Schrey, K. Tomic, W. Xu, V. Yaroshenko, J. Zanker-Smith, Dipl.-Ing. (FH) J. Ziegleder.

b) Mechanik

R. Bayer, T. Blasi, A. Brara, B. Budau, S. Czempiel, C. Deysenroth, M. Deysenroth, Dipl-Ing. (FH) K. Dittrich, G. Dietrich, J. Eibl, P. Feldmeier, J. Gahl, Dipl.-Phys. H. Gemperlein, A. Goldbrunner, J. Hartwig, Dipl-Ing. (FH) M. Haug, F. Haußmann, M. Honsberg, D. Huber, F.-X. Huber, Dipl.-Ing. H. Huber, S. Huber, H.-J. Kestler, T. Kratschmann, F. Leimböck, Dipl-Ing. (FH) B. Mican, Dipl.-Ing. (FH) S. Paßlack Dipl.-Ing. (FH) A. Pflüger, Dipl.-Ing. (FH) D. Pietschner, M. Plangger, C. Rohe, R. Sandmair, A. Schneider, C. Schreib, Dr. J. Schubert (Leitung), W. Schunn, S. Senftleben, F. Soller, R. Strecker.

c) Auszubildende

C. Fischer, P. Kohnert, F. Leimböck, S. Lenzewski, T. Liepold, A. Reinold, D. Schuppe, C. Warmuth, J. Ziegmeier.

G. Zentrale DV-Gruppe

H. Baumgartner, Dipl.-Phys. A. Bohnet, A. Kleiser, L. Klose, C. Kollmer, A. Oberauer, Dr. T. Ott, J. Paul, Dipl.-Ing. (FH) R. Sigl, Dr. H. Steinle, Dipl.-Ing. E. Wieprecht, Dipl.-Ing. (FH) E. Wiezorrek.

H. Öffentlichkeitsarbeit

E. Collmar, Dr. W. Collmar, Dr. H. Hämmerle.

I. Publikationsunterstützung

R. Hauner.

J. Bibliothek

C. Bartels, E. Blank, E. Chmielewski.

K. Verwaltung und Allgemeine Dienste

G. Apold, A. Arturo, T. Bauer, M. Bauernfeind, U. Bitzer, U. Cziasto, E. Doll, C. Eicher, M. Ertl, S. Fleischmann, S. Goldbrunner, M. Grasemann, M. Grohmann, H.-P. Gschnell, P. Hingerl, M. Ihle (Leitung), I. Inhofer, T. Jäkel, J. Jirsch, W. Karing, M. Keil, L. Kestler, V. Kliem, E. Kuhwald, E. Maier, L. Mayer, D. Meindl, A. Nagy, A. Neun, J. Paschou, M. Peischl, C. Preisler, A. Reither, R. Rochner, E. Rossa, P. Sandtner, B. Scheiner, S. Schwaiger, B. Seyfarth, R. Steinle, L. Thiess, J. Uhland, J.P. Vogt.

2.2 Gäste

Im Jahr 2015 besuchten 81 Gastwissenschaftler das MPE, mit Besuchszeiten von einigen Tagen bis zu einigen Monaten.

3 Preise, Auszeichnungen, Berufungen

Diehl, R.: Fellow, American Physical Society, College Park, USA, Oktober 2015.

Genzel, R.: 2014 Harvey-Preis, Technion, Haifa, Israel, April 2015.

van Dishoeck, E.F.: Lodewijk Woltjer Lecture, European Astronomical Society, La Laguna, Spanien, Juni 2015.

van Dishoeck, E.F.: Albert Einstein Award for Science, World Cultural Council, Dundee, UK, November 2015.

Wuyts, S.: 2014-15 Beatrice Tinsley Research Scholar Award, University of Texas at Austin, Austin, USA, April 2015.

4 Lehrtätigkeit, Prüfungen und Gremientätigkeit

4.1 Lehrtätigkeiten

Becker, W.: Astrophysikalisches Doktorandenseminar mit den Studenten der *International Max-Planck Research School on Astrophysics*, LMU München WS 14/15, SS 15, WS 15/16; Gravitationswellen und deren Nachweis SS 15; Endstadien der Sternentwicklung, LMU München WS 15/16.

Bender, R.: Astronomisches Kolloquium, LMU München WS 14/15, SS 15, WS 15/16; Astrophysikalisches Grundpraktikum, LMU München WS 14/15, SS 15, WS 15/16; Forschungsprojekt Masterarbeit, Anleitung zum wissenschaftlichen Arbeiten, LMU München WS 14/15, SS 15, WS 15/16; Grundlagen der fortgeschrittenen Astrophysik (Essential of Advanced Astrophysics), LMU München WS 14/15/, SS 15, WS 15/16; Ergänzung zur Vorlesung „Grundlagen der fortgeschrittenen Astrophysik“, LMU München WS 14/15, SS 15, WS 15/16; Astrophysikalisches Hauptseminar theoretisch und numerisch orientiert, „Tools in modern astrophysics“, LMU München WS 14/15, SS 15, WS 15/16; Begleitendes Kolloquium zum Astrophysikalisches Hauptseminar theoretisch und numerisch orientiert, LMU München WS 14/15, SS 15, WS 15/16; Astrophysikalisches Hauptseminar experimentell und beobachtungsorientiert, „Tools in modern astrophysics“, LMU München WS 14/15, SS 15, WS 15/16; Begleitendes Kolloquium zum Astrophysikalisches Hauptseminar experimentell und beobachtungsorientiert, LMU München WS 14/15, SS 15, WS 15/16; Projektseminar mit begleitendem Kolloquium „Extragalactic group seminar“, LMU München SS 15; Projektseminar mit begleitenden Kolloquium „Gravitational lensing“, LMU

München WS 14/15, SS 15; Projektseminar mit begleitenden Kolloquium „Galaxies“, LMU München WS 14/15, SS 15, WS 15/16; Projektseminar mit begleitenden Kolloquium aus dem Bereich experimenteller Arbeiten und Instrumentenentwicklung in der Astronomie, LMU München WS 14/15, SS 15, WS 15/16; Projektseminar mit begleitenden Kolloquium, vorbereitendes Kolloquium zur Masterarbeit mit Tutorium, Kolloquium und Tutorium aus dem Bereich der Kosmologie, Anleitung zum Wissenschaftlichen Arbeiten, LMU München WS 14/15, SS14, WS 15/16; Projektseminar mit begleitenden Kolloquium, vorbereitendes Kolloquium zur Masterarbeit mit Tutorium, Kolloquium und Tutorium aus dem Bereich experimenteller Arbeiten, Anleitung zum wissenschaftlichen Arbeiten, LMU München WS 14/15, SS 15, WS 15/16; Galaxies, Vorlesung, LMU München WS 15/16; Ergänzung zur Vorlesung „Galaxies“, LMU München WS 15/16.

Boller, Th.: High Angular Resolution Astronomy, Goethe-Universität Frankfurt SS 15; The Physiscs of the Solar System, Goethe-Universität Frankfurt WS 15/16.

Caselli, P.: Astrochemistry and star/planet formation, IMPRS für Astrophysik (Garching) WS 14/15; Astrochemical Processes, University of Florida, Gainesville USA SS 15.

Diehl, R.: Astrophysics Seminar „Nuclei in the Cosmos“, TU München WS 14/15, SS 15, WS 15/16 (mit Dozenten vom MPE, MPA, LMU, TU); Nuclear Astrophysics, Universität von Sao Paolo WS 15/16.

Eisenhauer, F.: Einführung in die Astrophysik, TU München WS 14/15, WS 15/16; High Angular Resolution Astronomy: Telescopes, Adaptive Optics, Interferometry, and more, TU München SS 15.

Gillessen, S.: Astrophysical Seminar, LMU München WS 14/15.

Krause, M.: Probestudium, LMU München WS 14/15.

Merloni, A.: An X-ray view of Active Galactic Nuclei and their cosmological evolution, Universität Heidelberg, SS 15.

Müller, T.: Astronomie, Kosmologie und Relativität: Lehrerfortbildung Gymnasiallehrer in Bayern, Kerschensteiner Kolleg im Deutschen Museum SS 15.

Saglia, R.: Grundlagen der fortgeschrittenen Astrophysik (Essentials of Advanced Astrophysiscs), LMU München WS 14/15 (mit R. Bender); Ergänzung zur Vorlesung “Grundlagen der fortgeschrittenen Astrophysik“, LMU München WS 14/15; Galaxies, Vorlesung, LMU München WS 14/15.

5 Wissenschaftliche Arbeiten

Die wissenschaftlichen Aktivitäten am MPE sind organisatorisch in vier große Arbeitsbereiche aufgeteilt, die jeweils von einem Direktor geleitet werden: (1) Infrarot- und Submm/mm Astronomie (Prof. Reinhard Genzel), (2) Optische und Interpretative Astronomie (Prof. Ralf Bender), (3) Hochenergieastrophysik (Prof. Kirpal Nandra) und (4) Zentrum für Astrochemische Studien (Prof. Paola Caselli). Diese vier Arbeitsbereiche, sowie noch zusätzlich zwei unabhängige Forschungsgruppen, beschäftigen sich – oft bereichsübergreifend – mit unseren acht großen Forschungsthemen (siehe „Einleitung“). Unsere Wissenschaft ist ausführlich auf unseren Internetseiten (`http://www.mpe.mpg.de`) unter dem Punkt „Forschung“ dargestellt. Wichtige Einzelergebnisse sind unter „MPE Forschungsmeldungen“ in zeitlicher Reihenfolge beschrieben.

6 Akademische Abschlussarbeiten

6.1 Bachelorarbeiten

Abgeschlossen:

Haberland, M.: Massebestimmung supermassiver schwarzer Löcher mit Reverberation Mapping. Ludwig-Maximilians-Universität München 2015.

Gillhuber, M.: Entwicklung und Realisierung einer Schrittmotorenregelung zur Bestimmung von Positionierungsgenauigkeiten im Bogensekundenbereich mit abschließender Eignungsbewertung für die Instrumentalisierung am Very Large Telescope. Hochschule für Angewandte Wissenschaften Landshut 2015.

Unterauer, E.: Altersbestimmung von Zwerggalaxien: die synthetic Color-Magnitude-Diagramm Methode. Ludwig-Maximilians-Universität München 2015.

6.2 Masterarbeiten

Abgeschlossen:

Simm, T.: AGN optical variability in the PAN-STARRS1 survey. Ludwig-Maximilians-Universität München 2015.

Weber,J.: Test and Characterization of the GRAVITY Laser Metrology Injection. Technische Universität München 2015.

6.3 Dissertationen

Abgeschlossen:

Buchner, J.: On the obscuration of the growing supermassive black hole population. Ludwig-Maximilians-Universität München 2015.

Chatzopoulos, S.: The old nuclear star cluster in the Milky Way. Ludwig-Maximilians-Universität München 2015.

Kulkarni, S.: Understanding the evolutionary modes of disks with resolved Halpha maps of 390 galaxies in local groups. Ludwig-Maximilians-Universität München 2015.

Longobardi, A.: Where stellar halos coexist with intracluster light: a case study of the giant Virgo-central galaxy M87. Ludwig-Maximilians-Universität München 2015.

Greisel, N.: Photometric redshifts and properties of galaxies from the Sloan Digital Sky Survey. Ludwig-Maximilians-Universität München 2015.

Holland, J. G.: Optical and X-ray structures in the REXCESS sample of galaxy clusters. Ludwig-Maximilians-Universität München 2015.

Hsu, L.-T.: Photometric redshifts of faint X-ray sources: paving the way towards the study of AGN/galaxy co-evolution over cosmic time. Ludwig-Maximilians-Universität München 2015.

Huber, M. B.: The relation between physical properties of galaxies and their environmental geometry in the Sloan Digital Sky Survey. Ludwig-Maximilians-Universität München 2015.

Maggi, P.: On the population of supernova remnants in the Large Magellanic Cloud observed with XMM-Newton. Technische Universität München 2015.

7 Tagungen, Projekte am Institut und Beobachtungszeiten

7.1 Tagungen und Veranstaltungen

Chemical Diagnostics of Star and Planet Formation with Cycle 3 ALMA, Garching, 13.1. - 15.1.2015, Organisation: P. Caselli, D. Semenov, L. Testi.

Thermal Models for Planetary Science II, Tenerife, Spain, 3.6. - 5.6.2015, Organisation: M. Delbo, J. Licandro, A. Mainzer, T. G. Müller, P. Tanga, J. Emery, T. Statler, J. Durech, A. Harris, H. Campins, C. Leyrat.

593rd Heraeus-Seminar on "Neue Wege der Satellitennavigation", Bad Honnef, 7.6. - 11.6.-2015, Organisation: W. Becker, A. Jessner.

Let's Group: The life cycle of galaxies in their favorite environment, Garching, 16.6. - 19.6.2015, Organisation: P. Popesso, V. Mainieri, A. Merloni, K. Dolag, A. Burkert, J. Mohr, D. Wilman, M. Salvato.

Excellence Cluster Symposium "Symmetries and Phases in the Universe", Irsee, Germany, 22.6. - 25.6.2015, Organisation: S. Bethke, A. Bode, H. Böhringer, A. Burkert, T. Dahms, R. Diehl, E. Emsellem, L. Fabbietti, S. Hilbert, C. Kiesling, E. Komatsu, D. Lüst, A. Müller, S. Paul, P. Popesso, E. Resconi, D. Straub, L.J. Tacconi, J. Weller.

30 Years of Photodissociation Regions, Asilomar, California, USA, 28.6. - 03.7.2015, Organisation: M. Meixner, A. Tielens, J. Bally, F. Bertoldi, M. Burton, P. Goldsmith, E. Falgarone, C. Kramer, W. Latter, S. Madden, T. Onaka, E. Roueff, L. J. Tacconi, E. van Dishoeck.

Marseille International Cosmology Conference: Drifting through the Cosmic Web: the Evolution of Galaxies within the Large Scale Structure, Aix-en-Provence, France, 6.7. - 11.7.2015, Organisation: M. Treyer, L. Tresse, C. Schmid, S. Arnouts, N. Bouché, F. Combes, A. Ealet, N.M. Förster Schreiber, J. van Gorkom, L. Guzzo, S. Lilly, C. Marinoni, J. Peacock, C. Péroux, C. Pichon, N. Scoville, J. Silk and B. Tully.

Star Formation History of the Universe, Garching, 27.7. - 21.8.2015, Organisation: A. Barger, A. Burkert, R. Davies, G. Kauffmann.

MIAPP 2015: The many faces of neutron star, Garching, 24.8.-18.9.2015, Organisation: W. Becker, D. Blaschke, E. v.d. Heuvel, M. Kramer, P. Podsiadlowski, J. Trümper.

IAU XXIX General Assembly, Symposium 319: Galaxies at high redshift and their evolution over cosmic time, Honolulu, Hawaii, U.S.A., 11.8. - 14.8.2015, Organisation: S. Kaviraj, H. Ferguson, B. Barbuy, F. Bournaud, D. Calzetti, L. Cowie, R. Davies, A. Dekel, R. Ellis, N.M. Förster Schreiber, K. Glazebrook, M. Ouchi, S. Ravindranath, E. Sadler, D. Sijacki and M. Urry.

IAU XXIX General Assembly, Focus Meeting 7: Stellar physics in galaxies throughout the Universe, Honolulu, Hawaii, U.S.A., 12.8. - 14.8.2015, Organisation: S. Charlot, C. Leitherer, C. Maraston, P. Coelho, R. de Grijs, J. Eldridge, N.M. Förster Schreiber, J. Gallagher, A. Karakas, R.-P. Kudritzki, P. Marigo.

Conditions and impact of star formation from lab to space, Zermatt, 7.9. - 11.9.2015, Organisation: Y. Aikawa, M. Beltran, P. Caselli, P. Goldsmith, M. Hogerheijde, D. Mardones, N. Murray, E. Roueff, A. Walsh, A. Whitworth.

From clouds to protoplanetary disks: the astrochemical link, Berlin, 4.10. - 8.10.2015, Organisation: P. Caselli, D. Semenov, C. Endres, L. Testi, A. Vasyunin, Y. Aikawa, H. Beuther, J. Blum, C. Ceccarelli, E. van Dishoeck, C. Dullemond, A. Dutrey, T. Henning, E. Herbst, K. Oeberg, N. Sakai, P. Schilke, S. Viti.

eROSITA-DE Consortium Meeting, Bamberg, 12.10. - 14.10.2015, Organisation: J. Wilms, P. Predehl, A. Merloni.

AO4ELT4 Conference, Lake Arrowhead, California, 26.10. - 30.10.2015, Organisation: J.-L. Beuzit, C. Blain, C. Boyer, Y. Clenet, L. Close, J.-M. Conan, J.-G. Cuby, R. Davies, E. Diolaiti, C. d'Orgeville, F. Eisenhauer, B. Eller-beck, S. Eposito, M. Ferrari, T. Fusco, M. Hart. Y. Hayano, P. Hickson, N. Hubin, M. Kasper, C. Kulcsar, O. Lardierre, J. Lu, E. Masciadri, C. Max, R. Myers, B. Neichel, L. Poyneer, R. Ragazzoni, A. Riccardi, F. Rigaut, G. Rousset, R. Stuik, N. Thatte, M. Troy, J.-P. Veran.

COST Scattering Theory meeting, MPE-MIAPP, 23.11. - 8.12.2015, Organisation: W.-F. Thi, L. Wiesenfeld, P. Caselli.

7.2 Projekte und Kooperationen mit anderen Instituten

Australien

Australian National University, Canberra: Galaxienentstehung.

CSIRO Astronomy and Space Science, Epping: CAS-Theory.

Monash University, Melbourne: Nukleare Astrophysik.

Swinburne University of Technology, Victoria: Millisecond Pulsars.

University of Western Sydney: Magellanic Clouds.

Belgien

CSL Liège, Katholieke Universiteit Leuven: Herschel-PACS; INTEGRAL-Spectrometer SPI.

Brasilien

Observatorio Nacional, Rio: DES.

Centro Brasileiro de Pesquisas, Rio: DES.

Universidade Federal do Rio: DES.

Universidad de Sao Paulo: Galaxienenstehung.

Canada

Dunlap Observatory, Richmond Hill: First Hydrostatic Cores (FHSCs).

NRC - Herzberg, Ottawa: Turbulence; superbubbles; First Hydrostatic Cores (FHSCs).

University of Alberta, Edmonton (Alberta): Turbulence.

University of Calgary: Turbulence.

University of Toronto: CAS-Observations.

University of Victoria, Victoria: Turbulence; superbubbles; First Hydrostatic Cores (FHSCs).

University of Waterloo, Waterloo: Herschel HIFI.

University of Western Ontario, London (Ontario): Turbulence.

Chile

Joint ALMA Observatory: CAS-Observations.

Universidad de Concepcion: Röntgen-Doppelsternsysteme.

Universidad Catolica Santiago: Röntgen-Doppelsternsysteme.

China

Donghua University, Shanghai: CAS-Theory.

Institute for High-Energy Physics (IHEP), Peking: AGN und unidentifizierte Gammaquellen von COMPTEL und INTEGRAL.

University of Hongkong: Strahlungsmechanismen von Pulsaren vom Röntgen bis zum Gammabereich.

Deutschland

Astrophysikalisches Institut Potsdam: eROSITA; XMM-Newton; GAVO; OPTIMA; ARGOS; HETDEX.

DLR-Köln Porz: Rosetta lander (Philae).

European Southern Observatory (ESO), Garching: GRAVITY; Galaxienentstehung; ASTRO-WISE; OmegaCAM; MICADO; Nukleare Astrophysik; ERIS; Black Hole Cam; Infrared Dark Clouds; CAS-Observations.

Fraunhofer Institut für Mikroelektronische Schaltungen und Systeme, Duisburg: Mikroelektronikentwicklungen; CAMEX 64B; JFET-CMOS Prozessor; ATHENA; eROSITA.

Heinrich-Heine-Universität, Düsseldorf: Soft Matter Physics.

Institut für Astronomie und Astrophysik Tübingen (IAAT): XMM-Newton; eROSITA; ATHENA.

Institut für Astrophysik Göttingen: MICADO.

Institut für Festkörperphysik und Werkstoff-Forschung, Dresden: Entwicklung weichmagnetischer Werkstoffe.

Institut fur Materialphysik im Weltraum, Köln: Glasübergänge.

Landessternwarte Heidelberg-Königstuhl: Nahinfrarotspektrograph LUCI für LBT; Galaxienentstehung; ARGOS.

Laser Zentrum Hannover: Development of advanced Filters for MICADO; coatings for Gravity; dichroics for ARGOS.

Ludwig-Maximilians-Universität Universitäts-Sternwarte), München: MICADO; HETDEX; eROSITA.

Maier-Leibnitz Laboratorium, Garching: eROSITA.

Max-Planck-Institut für Astronomie, Heidelberg: GRAVITY; LUCI; Herschel-PACS; Pan-STARRS; SDSS; ARGOS; MICADO; EUCLID, CAS-Observations.

Max-Planck-Institut für Astrophysik, Garching: GAVO; SDSS; OPTIMA; eROSITA; Prestellar Cores.

Max-Planck-Institut für Gravitationsphysik, Potsdam: Black Hole Cam.

Max-Planck-Institut für Physik, Werner Heisenberg Institut, München: MPI Halbleiterlabor, Entwicklung von CCDs; Active Pixeldetektoren (APS); JFET-Elektronik und Driftdetektoren für den Röntgenbereich; CAST; eROSITA.

Max-Planck-Institut für Radioastronomie, Bonn: ARGOS; Black Hole Cam; Molecular Clouds; Turbulence.

Physikalisch-Technische Bundesanstalt Berlin: eROSITA, TES Bolometer SQUID-Ausleseschaltung.

Technische Universität Berlin: Interstellares Medium.

Technische Universität Darmstadt: CAST.

Technische Universität München: Nukleare Astrophysik.

Thüringer Landessternwarte Tautenberg: GROND; Gamma-Ray Bursts.

Trans MIT, Gießen: Pulse tube cooler for GRAVITY.

Universität Bochum: LUCI.

Universität Bonn: Test von Pixeldetektoren für ATHENA; ASTRO-WISE; eROSITA, EUCLID.

Universität Düsseldorf: ERC Advanced Grant.

Universität Erlangen (ECAP): eROSITA, ATHENA.

Universität Hamburg: eROSITA; OPTIMA (Flarestars).

Universität Heidelberg: ATHENA; XFEL.

Universität Jena: Isolierte Neutronensterne; Nukleare Astrophysik.

Universität Köln: Galaktisches Zentrum; GRAVITY;CAS-Observations, CAS-Theory, CAS-Laboratory.

Universität Mannheim: ATHENA; XFEL.

Universität Würzburg: AGADE.

Frankreich

Aix-Marseille University, Marseille: CAS-Theory.

CEA, Saclay: INTEGRAL-Spektrometer SPI; Herschel-PACS; CAST; EUCLID; SVOM; Molecular Clouds; ATHENA.

Centre d'Etude Spatiale des Rayonnements (UPS), Toulouse: INTEGRAL-Spektrometer SPI.

IAP Paris: Nukleare Astrophysik.

Laboratoire d'Astrophysique de Marseille (LAM): EUCLID; Gamma-Ray Bursts.

Laboratoire Univers et Particules de Montpellier, Montpellier: Cosmic-ray propagation in molecular clouds.

IPAG Grenoble: GRAVITY; MICADO, Astrochemistry.

OAMP Marseille: Herschel-PACS.

Observatoire de Paris (GEPI): MICADO.

Observatoire de Paris (LESIA): MICADO.

ONERA, Meudon: MICADO.

Observatoire de Paris-Meudon: GRAVITY; MICADO.

Universite Paris Diderot, Paris: CAS-Observations.

Griechenland

University of Crete and Foundation for Research and Technology Hellas (FORTH), Heraklion: Ausbau und Betrieb der Skinakas Sternwarte; Untersuchung von windakkretierenden Röntgendoppelsternsystemen; Entwicklung und Einsatz des OPTIMA Photometers; optische Identifikation und Monitoring von Röntgen-AGN; Novae.

Grobritannien

Queen's University, Belfast: PanSTARRS.

John Moores University, Liverpool: Himmelsdurchmusterung Galaxienhaufen; Infrared Dark Clouds.

Open University, Milton Keynes: Kataklysmische Veränderliche; Novae; ATHENA.

Rutherford Appleton Laboratory, Council for the Central Laboratory of the Research Councils: SIS-Junctions.

SKA Organisation, Jodrell Bank Observatory, Manchester: First Hydrostatic Cores.

University of Cambridge: DES.

University College London, MSSL: High Energy Pulsars; EUCLID; DES.

University of Durham: PanSTARRS.

University of Edinburgh: DES; PanSTARRS.

University of Leeds: CAS-Observations.

University of Leicester: XMM-Newton Datenanalyse; ATHENA; Swift.

University of Manchester, Manchester: CAS-Observations.

University of Nottingham: DES.

University of Portsmouth: DES.

University of Sussex: DES.

University of Southampton: Magellanic Clouds.

United Kingdom Astronomy Technology Centre (UKATC): EUCLID.

Irland

National University of Ireland, Galway: High Time Resolution Astronomy.

University College Dublin, Dublin: Fermi/GBM.

Israel

School of Physics and Astronomy, Wise Observatory, Tel Aviv: Aktive Galaxien; Galaxienentwicklung; Interstellares Medium.

Weizmann Institut, Rehovot: Galaktisches Zentrum.

Italien

Brera Astronomical Observatory: Himmelsdurchmusterung Galaxienhaufen; ATHENA.

IFCAI-CNR Palermo: XMM-Newton Beobachtungen von Neutronensternen und Pulsaren.

INAF (Insituto Nationale di Astrofisica): ATHENA, EUCLID.

INAF Arcetri: ARGOS; LBT; ERIS; Infrared Dark Clouds; First Hydrostatic Cores; CR in Molecular Clouds

INAF Padua: Herschel-PACS; MICADO; LBT.

INAF Roma: LBT; Nukleare Astrophysik.

INAF Trieste: Gamma-Ray Bursts; Fermi/LAT.

INFR Frascati: SIDDHARTA.

Istituto di Fisica dello Spazio Interplanetario (CNR), Frascati: Herschel-PACS.

OAA/LENS Firenze: Herschel-PACS.

Politecnico di Milano: rauscharme Elektronik; Röntgendetektorenentwicklung.

University Bologna: EUCLID.

Japan

National Astronomical Observatory of Japan, Mitaka/Tokio: CAS-Observations.

Tokio Institute of Technology (TITECH), Ookayama: ASCA/XMM-Newton Beobachtungen von AGN.

University of Osaka: Astro-H.

Kroatien

Ministry of Science and Technology, Zagreb: CAST.

Niederlande

ESTEC, Noordwijk: XMM-Newton-TS-Spiegelkalibration; CCD Entwicklung; Radiation Performance Instrument; INTEGRAL; EUCLID.

JIVE Dwingeloo: Black Hole Cam.

NOVA (Leiden, Groningen, Amsterdam): MICADO.

Leiden University, Leiden: CAS-Observations, CAS-Theory.

Radboud University, Nijmegen: Black Hole Cam.

SRON, Utrecht: Chandra-LETG.

University of Groningen, Kapteyn Institute: Rekonstruktion der Dichteverteilung im Universum; EUCLID; Dynamical-Chemical Models.

Österreich

Universität und TU Wien: Herschel-PACS; MICADO; ATHENA.

Universität Innsbruck: MICADO.

Universität Linz: MICADO.

Universität Wien: CAS-Theory.

RICAM Linz: MICADO.

Polen

Nicolaus Copernicus (ZAMK), Torun: Pulsars Astronomical Centers; ATHENA.

University Zielona Gora: OPTIMA.

Portugal

SIM Lissabon: GRAVITY.

Russland

Staatliche Technische Universität Bauman, Moscow: Stark gekoppelte Systeme; Time-domain spectroscopy; CAS-Theory; CAS-Laboratory.

Space Research Institute (IKI) of the Russian Academy of Science, Moscow: eROSITA; Spectrum-Röntgen-Gamma.

Skobeltsyn Institute of Nuclear Physics, Moscow: Nukleare Astrophysik; Gamma-Ray Bursts; AGADE.

Schweden

University Lund/Observatory: OPTIMA.

Schweiz

CERN, Geneva: CAST.

ETH Zürich: ERIS.

Observatoire de Genève Sauverny, Geneva: ISDC/INTEGRAL; Nukleare Astrophysik; EUCLID.

Universität Basel: Nukleare Astrophysik.

University of Zurich: Infrared Dark Clouds.

Spanien

Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas: DES.

ESAC, Madrid: XMM-Newton Science Operations Center; INTEGRAL Science Operations Center; Herschel Science Operations Center.

Instituto de Astrofisica de Canarias (IAC), Laguna: Herschel-PACS.

Instituto de Ciencias del Espacio, Bellaterra: DES.

Institut de Fisica d'Altes Energies, Barcelona: DES.

Universität Valencia, Department de Astronomia, Valencia: INTEGRAL-Spektrometer SPI.

Universidad de Zaragoza: CAST.

Observatorio Astronomico de Mallorca: Novae; Kometen.

Observatorio Astronómico Nacional, Madrid: CAS-Observations.

Taiwan

National Central University, Chungli: PanSTARRS.

National Tsing Hua University, Hsinchu: CAS-Observations.

Türkei

Bogazici University, Istanbul: CAST.

Ungarn

Konkoly Observatory: Herschel-PACS.

USA

Argonne National Laboratory: DES.

Brookhaven National Laboratory: strahlenharte JFET-Elektronik; strahlenharte Detektoren.

California Inst. of Technology, Pasadena: X-ray survey.

CfA, Cambridge: ATHENA WFI; XMM-Newton/Chandra Kalibration.

Clemson University: Gamma-Ray Bursts; Nukleare Astrophysik.

Fermilab, Batavia: DES.

Harvard University: PanSTARRS.

Harvard-Smithsonian Center for Astrophysics, Cambridge: Molecular cloud cores chemistry and dynamics.

Institute for Astronomy, Hawaii, Honolulu: Galaxienentstehung; PanSTARRS; NIR Kamera für Wendelstein.

Jet Propulsion Laboratory, Pasadena: EUCLID.

Johns Hopkins University: PanSTARRS.

Joint Astronomy Center, Hilo (Hawaii): Turbulence and superbubbles.

Marshall Space Flight Center, Huntsville: Fermi Gamma-Ray Burst Monitor; XMM-Newton und Chandra Beobachtungen von Neutronensternen, Pulsaren und Supernovaüberresten.

NASA/Ames Research Center, Mofett Field (CA): MHD shocks.

NASA/Goddard Space Flight Center, Greenbelt, MD: INTEGRAL-Spektrometer SPI; Swift.

NOAO, Tucson: DES.

Ohio State University, Columbus: DES; LBT.

Pacific Northwest National Laboratory (PNNL), Richland: CAST.

Pennsylvania State University: HETDEX; ATHENA/WFI; Swift.

Research Corporation, Tucson: LBT.

San Jose State University: MHD shocks.

Smithsonian Astrophysical Observatory, Cambridge: Chandra-LETGS; Röntgendoppelsterne in M31.

Space Telescope Science Institute, Baltimore: Galaxienentstehung; PanSTARRS; Turbulence.

Stanford/SLAC: CAMP, DES.

Stanford University: DES, Fermi/LAT; Fermi/GBM.

Texas A & M University, College Station: DES.

Texas State University, San Marcos: HETDEX.

University of Arizona, Tucson: Kosmische Strahlung; SOHO/CELIAS; Planetenentstehung; LBT; ARGOS; CAS-Observations.

University of California, Berkeley: MPG/UCB-Kollaboration; FAST; INTEGRAL-Spektrometer SPI; Superbubbles.

University of California, Santa Cruz: DES.

University of Chicago: DES.

University of Colorado, Boulder (Co): Superbubbles.

University of Florida, Gainesville (Fl): Infrared Dark Clouds.

University of Illinois at Urbana-Champaign: FIFI-LS; DES.

University of Michigan: DES.

University of Pensylvania: DES.

University of Pittsburgh: Galaxienentstehung.

University of Texas, Austin: Galaxienentstehung; HETDEX; Turbulence.

University of Toledo: Galaxienentstehung.

Yale University, New Haven: CAS-Observations.

7.3 Multinationale Projekte

ARGOS – Laserleitstern für das LBT: API, LSW Heidelberg, MPIA, MPIfR, Germany; University of Arizona, USA.

ASPI – The International Wave Consortium: CNR-IFSI Frascati, Italy; LPCE/CNRS Orleans, France; Dept. of Automatic Control and Systems University of Sheffield, UK.

ATHENA – Advanced Telescope for High Energy Astrophysics: Dänemarks Technische Universität, Dänemark; Nikolaus Kopernikus Astronomical Center, Polen; Universität Wien, Österreich; INAF Italy, Italy; CEA Frankreich, Frankreich; University of Leicester, Open University, UK; Institut für Astronomie und Astrophysik Tübingen, Erlangen Centre for Astroparticle Physics (ECAP), Germany; ESA.

Black Hole Cam ERC Synergy Grant: ESO Garching, MPI für Gavitationsphysik, MPI für Radioastronomie, Germany; Radboud University, JIVE Dwingeloo, The Netherlands.

BOSS – Baryon Oscillation Spectroscopic Survey: SDSS-IV Collaboration.

CAST – CERN Solar Axion Telescope: CERN Geneva Switzerland; TU Darmstadt, MPI für Physik (WHI) München, Germany; Universidad de Zaragoza, Spain; Bogazici University Istanbul, Turkey; Ministry of Science and Technology Zagreb, Croatia; CEA/Sacklay DAPNIA/SED, France; Pacific Northwest National Laboratory, Richland, USA.

CDFS – The Chandra Deep Field South: ESO Garching, Astrophysikalisches Institut Potsdam, Germany; IAP Paris, France; Osservatorio Astronomico Trieste; Instituto Nazionale di Fisica Nucleare Trieste, Italy; Associated Universities Washington, Johns Hopkins University Baltimore, Space Telescope Science Institute Baltimore, USA; Center for Astrophysics Hefei, China.

Chandra X-ray Observatory: Marshall Space Flight Center Huntsville, Massachusetts Institute of Technology Cambridge, Smithsonian Astrophysical Observatory Cambridge, USA; Space Research Institute Utrecht, The Netherlands; Universität Hamburg, Germany.

COSMOS – Cosmic Evolution Survey: INAF-Osservatorio Astronomico di Bologna, INAF-Osservatorio Astronomico di Roma, INAF-Osservatorio Astrofisico di Arcetri, INAF/IASF-CNR, Sezione di Milano, IRA-INAF, Bologna, Dipartimento di Astronomia, Universita Padova, Dipartimento di Fisica, Universita degli Studi Roma Tre, Italy; Harvard-Smithsonian Centre for Astrophysics, Cambridge, Department of Physics, Carnegie Mellon University, Pittsburg, Institute for Astronomy, University of Hawaii, California Institute of Technology, Pasadena, Department of Astronomy, Yale University, USA; INTEGRAL Science Data Centre, Versoix, Switzerland; Laboratoire d'Astrophysique de Marseille, France.

DES – The Dark Energy Survey: LMU München, Excellence Cluster Universe, Germany; The Fermi National Accelerator Laboratory (Fermilab), University of Chicago, NOAO, University of Michigan, University of Pennsylvania, University of Illinois at Urbana-Champaign, Ohio State University, Texas A&M University, University of California Santa Cruz, Stanford University, SLAC National Accelerator Laboratory, The Lawrence Berkeley National Laboratory, Argonne National Laboratory, USA; University College London, University of Cambridge, University of Edinburgh, University of Portsmouth, University of Sussex, University of Nottingham, UK; Observatorio Nacional, Centro Brasileiro des Pesquisas Fisicas, Universidade Federal do Rio, Brasilien; Instituto de Ciencias dei Espacio, Institut de Fisica d'Altes Energies, Centro de Investigaciones Energeticas Medioambientales y Tecnologicas, Spain.

ERIS – Enhanced Resolution Imager and Spectograph for the VLT: ESO, Germany; ETH Zürich, Schweiz.

eROSITA – extended ROentgen Survey with an Imaging Telescope Array: Universität Tübingen, AIP Potsdam, Universität Hamburg, Remeis-Sternwarte Bamberg, MPA Garching, Germany; IKI Moskau, Russia.

EUCLID – ESA Mission to map the Dark Energy: ESA; CEA Saclay, LAM, France; University Bologna, INAF, Italy; MSSL, Durham University, UKATC, UK; STScI, USA; MPIA Heidelberg, Universität Bonn, Germany.

Fermi/GBM – Fermi Gamma-Ray Burst Monitor: Marshall Space Flight Center Huntsville, University of Huntsville, USA.

Fermi/LAT – Fermi Large Area Telescope: Stanford University Palo Alto, Naval Research Laboratory Washington DC, Sonoma State University Rohnert Park, Lockheed Martin Corporation Palo Alto, University of California Santa Cruz, University of Chicago, University of Maryland Greenbelt, NASA Ames Research Center Moffett Field, NASA Goddard Space Flight Center for High Energy Astrophysics Greenbelt, Boston University, University of Utah Salt Lake City, University of Washington Seattle, SLAC Particle Astrophysics Group Palo Alto, USA; ICTP and INFN Trieste, Istituto Nacionale di Fisica Nucleare Trieste, Italy; University of Tokyo, Japan; CEA Saclay, France.

FP7 Opticon JRA1 - Adaptive Optics: INAF Padova, INAF Arcetri, Italy; LAM Marseille, LAOG Grenoble; LESIA Paris, ONERA Paris, France; KIS Freiburg, MPIA Heidelberg, Germany; NOVA Leiden, The Netherlands; UKATC Edinburgh; University Durham, UK.

GRAVITY – Instrument for VLT Interferometry: MPIA Heidelberg, Universität Köln, ESO, Garching, Germany; SIM Lissabon und Porto, Portugal; IPAG, Grenoble, Observatoire de Paris / Meudon (LESIA), France.

Herschel/PACS – Herschel/Photodetector Array Camera and Spectrometer: CSL Liège, Katholieke Universiteit Leuven, Belgium; MPIA Heidelberg, Universität Jena, Germany; OAA/LENS Firenze, IFSI Roma, OAP Padova, Italy; IAC La Laguna, Spain; Universität und TU Wien, Austria; IGRAP Marseilles, CEA Saclay, France; Konkoly Observatory, Hungary.

HETDEX – Hobby-Eberly Telescope Dark Energy Experiment: University of Texas, Austin, Pennsylvania State University, Texas A&M University, USA; AIP Potsdam, LMU, USM, Germany.

INTAS – Cooperation of Western and Eastern European Scientist: France, Germany, Norway, Russia.

ISDC – INTEGRAL Science Data Centre: Observatoire de Geneva Sauverny, Switzerland; Service d'Astrophysique Centre d'Etudes de Saclay, France; Rutherford Appleton Laboratory Oxon Dept. of Physics University Southhampton, UK; Institut für Astronomie und Astrophysik Tübingen, Germany; Danish Space Research Institute Lyngby, Denmark; University College Dublin, Ireland; Istituto di Fisica Milano, Istituto die Astrofisica Spatiale

Frascati, Italy; N. Copernikus Astronomical Center Warsaw, Poland; Space Research Institute of the Russian Academy of Sciences Moscow, Russia; Laboratory for High Energy Astrophysics GSFC Greenbelt, USA.

INTEGRAL-Spectrometer SPI: Centre d'Etude Spatiale des Rayonnements (CESR) Toulouse, CEA Saclay Gif-sur-Yvette, France; University de Valencia Burjassot, Spain.

LBT – Large Binocular Telescope Project: MPIA Heidelberg, MPIfR Bonn, Landessternwarte Heidelberg Königstuhl, Astrophysikalisches Institut Potsdam, Germany; University of Arizona Tucson, Ohio State University, Columbus, Research Corporation USA; Osservatorio Astrofisico di Arcetri Firenze, Italy.

Lockman Hole, optical/NIR identifications: Astrophysikalisches Institut Potsdam, ESO Garching, Germany; Istituto di Radioastronomia del CNR Bologna, Italien; Associated Universities Washington, California Institute of Technology Pasadena, Institute for Astronomy Honolulu, Princeton University Observatory, Pennsylvania State University Park, USA; Subaru Telescope NAO Hilo, Japan.

LUCI (Instrument for LBT): LSW Heidelberg, MPIA, Universität Bochum, Germany.

MICADO – Multi-Adaptive Optics Imaging Camera for Deep Observations: LMU, USM, MPIA, IFA Göttingen, Germany; INAF Padova, Italy; Austrian Universities astronomy cooperation (Wien, Innsbruck, Linz), Austria; NOVA, Federation of Dutch University Astronomy Departments, The Netherlands; LESIA Paris, France.

MXT – Microchannel X-Ray Telescope for Gamma-Ray Bursts: CEA, Saclay, France; University of Leicester, UK.

OPTIMA – Optical Pulsar TIMing Analyzer: Astrophysikalisches Institut Potsdam, MPI für Astrophysik, Universität Hamburg, Germany; University of Crete, Greece; University Zielona Gora, Poland; University Lund/Observatory, Schweden.

PanSTARRS – Panoramic Survey Telescope & Rapid Response System: MPIA Heidelberg, Germany; University of Hawaii, Harvard University, Johns Hopkins Univ. Baltimore, MD, USA; Universities of Durham, Edinburgh, Belfast, UK.

SDSS – Sloan Digital Sky Survey: MPA Garching, MPIA Heidelberg, Germany; Univ. of Washington, Seattle, Fermi National Accelerator Laboratory, Batavia, Univ. of Michigan, Ann Arbor, Carnegie Mellon Univ., Pittsburgh, Penn State Univ., University Park, Princeton Univ. Observatory, Princeton, The Institute of Advanced Study Princeton, Space Telescope Science Institute, Baltimore, Johns Hopkins Univ. Baltimore, USA.

Swift – Gamma-Ray Burst Mission: NASA/GSFC Greenbelt, Penn State University, USA; University of Leicester, Mullard Space Science Laboratory London, UK; Osservatorio Astronomico Brera, Italy.

XMM-Newton/Survey Science Center (SSC): Astrophysikalisches Institut Potsdam, Germany; SAP Saclay, CDS Strasbourg, CESR Toulouse, France; University of Leicester, Institute of Astronomy Cambridge, MSSL London, UK.

XMM-Newton/European Photo Imaging Camera (EPIC): SAP Saclay, IAS Orsay, CESR Toulouse, France; University of Leicester, University Birmingham, UK; CNR Mailand-Palermo-Bologna-Frascati, Osservatorio Astronomico Mailand, Italy; Institut für Astronomie und Astrophysik Tübingen, Germany.

7.4 Projekte mit der Industrie

3d shape GmbH, Erlangen: Metrology for slumped glass mirror study.

4D Engineering, Gilching, Germany: Software development for GRAVITY.

ABN GmbH, Neuried: Betreuung der Testanlage PANTER.

af inventions, Braunschweig: FPGA programmierung for eROSITA.

Airbus Defense and Space, Munich: EUCLID design study, eROSITA.

Albedo GmbH, Neubiberg; Soft- and hardware developments for PK-3 Plus; electronics for SDD readout.

AMOS, Liège, Belgium: High resolution grating for ERIS

Array Electronics, Egmanting: DAQ development OPTIMA.

BASF Coatings AG, Münster: Untersuchung der Streueigenschaften von Mikropartikeln.

Bonerz engineering, Weiler-Simmerberg: Platinenentwicklung, Elektronikentwicklung.

Buchberger GmbH, Tuchenbach: Fertigung Strukturteile für PANTER-Manipulatore.

ESL GmbH, Berlin: Fertigung von Leiterplatten.

Fraunhofer IOF, Jena: Coating for ERIS.

Freyer GmbH, Tuningen: PANTER; parts for LUCI; eROSITA.

Guido Lex Werkzeugbau GmbH, Miesbach: Strukturteile für LUCI; eROSITA.

Hans Englett OHG, Berlin: Fertigung von Frontplatten und Meßvorrichtungen.

HPS München: Multi-Layer Insulation (MLI) for eROSITA.

IABG, Ottobrunn: Umgebungs-Tests eROSITA.

Ingenieurbüro Buttler, Essen: Front-End Elektronikentwicklung für ATHENA und eROSITA.

Ingenieurbüro Josef Eder, Hilgertshausen: System Engeneering for eROSITA; GRAVITY.

Ingenieurbüro Weisz, München: Design and mechanical engineering for LUCI, ERIS and MICADO.

Invent GmbH, Braunschweig: CFRP-Telescopestructure for eROSITA.

IRIDIAN Spectral Technologies, Ottawa, Canada: Fitters for ERIS Spectrometer.

Korth Kristalle GmbH, Kiel: Lenses for ERIS Spectrometer.

Kugler GmbH, Salem: GRAVITY.

Laserjob GmbH, Grafrath: Entwicklung Röntgenbaffle für eROSITA.

Luxel Corporation, USA: Filter for eROSITA.

Media Lario Technologies, Borisio Parini, Italy: eROSITA mirror system.

MENLO Systems, Martinsried, Germany: Metrology Laser for GRAVITY.

MOOG Inc., East Aurora, USA: high pressure valves for eROSITA.

PNSensor, München: Entwicklung und Fertigung von Halbleiterdetektoren; Montage von Halbleiterdetektorsystemen; ARGOS.

RUAG Austria: Teleskop-Deckel-Mechanismus für eROSITA.

Technotron, Lindau: Entwicklung und Fertigung der Platinen Layouts für eROSITA.

TransMIT, Giessen, Germany: pulse tube cooler for GRAVITY.

WINLIGHT OPTICS, Pertuis, France: Beam analyzer optics for GRAVITY.

ZÜND Precision Optics, Diepoldsau, Switzerland: roof prisms for GRAVITY.

8 Veröffentlichungen

8.1 In Zeitschriften und Büchern

ALMA Partnership, E.B. Fomalont, C. Vlahakis, S. Corder, ..., F. Alves, ..., J. Pineda, et al.: The 2014 ALMA Long Baseline Campaign: An Overview. Ap. J. Lett. 808, L1-L11 (2015).

Aalto, S., S. Martín, F. Costagliola, ..., E. Sturm, et al.: Probing highly obscured, self-absorbed galaxy nuclei with vibrationally excited HCN. Astron. Astrophys. 584, A42 (2015).

Acero, F., M. Ackermann, M. Ajello, ..., A.W. Strong, et al.: Fermi Large Area Telescope Third Source Catalog. Ap. J. Supp. Ser. 218, 23 (2015).

Ackermann, M., M. Ajello, A. Albert, ..., A.W. Strong, et al.: The Spectrum of Isotropic Diffuse Gamma-Ray Emission between 100 MeV and 820 GeV. Ap. J. 799, 86 (2015).

Ackermann, M., M. Ajello, A. Albert, ..., A.W. Strong, et al.: Limits on dark matter annihilation signals from the Fermi LAT 4-year measurement of the isotropic gamma-ray background. Journal of Cosmology and Astroparticle Physics 008, pp. 1-40 (2015).

Agarwal, B., S. Khochfar, S.: Revised rate coefficients for $H_2 2$ and H^- destruction by realistic stellar spectra. Mon. Not. R. Astron. Soc. 446(1), 160-168 (2015).

Agnello, A., T. Treu, F. Ostrovski, ..., D. Gruen, ..., et al.: Discovery of two gravitationally lensed quasars in the Dark Energy Survey. Mon. Not. R. Astron. Soc. 454(2), 1260-1265 (2015).

Aird, J., A.L. Coil, A. Georgakakis, K. Nandra, G. Barro and P.G. Pérez-González: The evolution of the X-ray luminosity functions of unabsorbed and absorbed AGNs out to $z \sim 5$. Mon. Not. R. Astron. Soc. 451, 1892-1927 (2015).

Ajello, M., D. Gasparrini, M. Sánchez-Conde, ..., A.W. Strong: The Origin of the Extragalactic Gamma-Ray Background and Implications for Dark Matter Annihilation. Ap. J. Lett. 800, L27 (2015).

Akiyama, K., R.-S. Lu, V.L. Fish, S.S. Doeleman, A.E. Broderick, J. Dexter, et al.: 230 GHz VLBI Observations of M87: Event-horizon-scale Structure during an Enhanced Very-high-energy γ-Ray State in 2012. Mon. Not. R. Astron. Soc. 807, 150-160 (2015).

Alam, S., F.D. Albareti, C. Allende Prieto, ..., N. Clerc, ..., T. Dwelly, ..., A. Georgakakis, ..., J.N. Grieb, ..., M.L. Menzel, ..., A. Merloni, ..., K. Nandra, ..., S. Salazar-Albornoz, ..., M. Salvato, ..., A.G. Sánchez, et al.: The Eleventh and Twelfth Data Releases of the Sloan Digital Sky Survey: Final Data from SDSS-III. Ap. J. Supp. Ser. 219, 12 (2015).

Alam, S., F.D. Albareti, C. Allende Prieto, ..., M. Salvato, et al.: The Eleventh and Twelfth Data Releases of the Sloan Digital Sky Survey: Final Data from SDSS-III. Ap. J. Suppl. 219, 12A (2015).

Allen, R.C., J.-C. Zhang, L.M. Kistler, H.E. Spence, R.-L. Lin, B. Klecker, M.W. Dunlop, M. André and V.K. Jordanova: A statistical study of EMIC waves observed by Cluster: 1. Wave properties. J. Geophys. Res. (Space Phys.) 120, 5574-5592 (2015).

Anastassopoulos, V., M. Arik, S. Aune, ..., H. Bräuninger, ..., P. Friedrich, et al.: Search for chameleons with CAST. Physics Letters B, 749, 172-180 (2015).

ANTARES Collaboration, S. Adrián-Martínez, A. Albert, M. André, ..., C. Großberger, et al.: ANTARES constrains a blazar origin of two IceCube PeV neutrino events. Astron. Astrophys. 576, L8, pp. 1-6 (2015).

Anthonioz, F., F. Ménard, C. Pinte, J.-B. Le Bouquin, M. Benisty, W.-F. Thi, O. Absil, G. Duchêne, J.-C. Augereau, J.-P. Berger, S. Casassus, G. Duvert, B. Lazareff, F. Malbet, R. Millan-Gabet, M. R. Schreiber, W. Traub, G. Zins: The VLTI/PIONIER

near-infrared interferometric survey of southern T Tauri stars. I. First results. Astron. Astrophys., 574A, 41A (2015).

Antonellini, S., I. Kamp, P. Riviere-Marichalar, R. Meijerink, P. Woitke, W.-F. Thi, M. Spaans, G. Aresu and G. Lee: Understanding the water emission in the mid- and far-IR from protoplanetary disks around T Tauri stars. Astron. Astrophys. 582, A105 (2015).

Arasa, C., J. Koning, G.-J. Kroes, C. Walsh and E.F. van Dishoeck: Photodesorption of H_2O, HDO, and D_2O ice and its impact on fractionation. Astron. Astrophys. 575, A121 (2015).

Arav, N., C. Chamberlain, G.A. Kriss, ..., B. De Marco, G. Matt, K.P. Nandra, S. Paltani, B.M. Peterson, C. Pinto, G. Ponti, et al.: Anatomy of the AGN in NGC 5548. II. The spatial, temporal, and physical nature of the outflow from HST/COS Observations. Astron. Astrophys. 577, A37 (2015).

Arik, M., S. Aune, K. Barth, A. Belov, H. Bräuninger, J. Bremer, V. Burwitz, et al.: New solar axion search using the CERN Axion Solar Telescope with 4He filling. Physical Review D 92, 021101 (2015).

Aubourg, É., S. Bailey, J.E. Bautista, ..., A.G. Sánchez, et al.: Cosmological implications of baryon acoustic oscillation measurements. Physical Review D 92, 123516 (2015).

Auster, H.-U., I. Apathy, G. Berghofer, K.-H. Fornacon, A. Remizov, C. Carr, C. Güttler, G. Haerendel, P. Heinisch, D. Hercik, M. Hilchenbach, E. Kührt, W. Magnes, U. Motschmann, I. Richter, C.T. Russell, A. Przyklenk, K. Schwingenschuh, H. Sierks and K.-H. Glassmeier: The nonmagnetic nucleus of comet 67P/Churyumov-Gerasimenko. Science 349, Issue 6247, pp. (2015).

Bañados, E., B.P. Venemans, E. Morganson, ..., J. Greiner, et al.: Constraining the Radio-loud Fraction of Quasars at $z > 5.5$. Ap. J. 804, 118 (2015).

Bailey, J.D. and J.D. Landstreet: The remarkably unremarkable global abundance variations of the magnetic Bp star HD 133652. Astron. Astrophys. 580, A81 (2015).

Bailey, J.D., J. Grunhut and J.D. Landstreet: A comprehensive analysis of the magnetic standard star HD 94660: Host of a massive compact companion?. Astron. Astrophys. 575, A115 (2015).

Bailey, N.D., S. Basu and P. Caselli: Kinematics in Partially Ionized Molecular Clouds: Implications for the Transition to Coherence. Ap. J. 798, 75 (2015).

Balbinot, E., B. Santiago, L. Girardi, ..., D. Gruen, et al.: The LMC geometry and outer stellar populations from early DES data. Mon. Not. of the R.. Astro. Soc., 449(1), 1129-1145 (2015).

Banerji, M., S. Jouvel, H. Lin, ..., J.J. Mohr, et al.: Combining Dark Energy Survey Science Verification data with near-infrared data from the ESO VISTA Hemisphere Survey. Mon. Not. R. Astron. Soc. 446, 2523-2539 (2015).

Banzatti, A., K.M. Pontoppidan, S. Bruderer, J. Muzerolle and M.R. Meyer: Depletion of Molecular Gas by an Accretion Outburst in a Protoplanetary Disk. Ap. J. Lett. 798, L16 (2015).

Baryshev, A.M., R. Hesper, F.P. Mena, ..., E.F. van Dishoeck, et al.: The ALMA Band 9 receiver. Design, construction, characterization, and first light. Astron. Astrophys. 577, A129 (2015).

Baxter, E. J., R. Keisler, S. Dodelson, ..., E.M. George, et al.: A measurement of gravitational lensing of the cosmic microwave background by galaxy clusters using data from the South Pole Telescope. Ap. J. 806(2), 247, pp. 1-14 (2015).

Bechtol, K., A. Drlica-Wagner, E. Balbinot, ..., J. Mohr, et al.: Eight New Milky Way Companions Discovered in First-year Dark Energy Survey Data. Ap. J. 807, 50 (2015).

Becker, W., M.G. Bernhardt and A. Jessner: Interplanetary GPS using pulsar signals. Astron. Nachr. 336, 749 (2015).

Behrendt, M., A. Burkert and M. Schartmann: Structure formation in gas-rich galactic discs with finite thickness: from discs to rings. Mon. Not. R. Astron. Soc. 448, 1007-1019 (2015).

Bender, R., J. Kormendy, M.E. Cornell and D.B. Fisher: Structure and Formation of cD Galaxies: NGC 6166 in ABELL 2199. Ap. J. 807, 56 (2015).

Bisbas, T.G., T.J. Haworth, M.J. Barlow, S. Viti, T.J. Harries, T. Bell and J.A. Yates: TORUS-3DPDR: a self-consistent code treating three-dimensional photoionization and photodissociation regions. Mon. Not. R. Astron. Soc. 454, 2828-2843 (2015).

Bisbas, T.G., T.J. Haworth, R.J.R. Williams, et al.: STARBENCH: the D-type expansion of an H II region. Mon. Not. R. Astron. Soc. 453, 1324-1343 (2015).

Bizzocchi, L., C.D. Esposti, L. Dore, J. Gauss, and C. Puzzarini, C.:. The Born-Oppenheimer equilibrium bond distance of GeO from millimetre- and submillimetre-wave spectra and quantum-chemical calculations. Molecular Physics, 113(8), 801-807 (2015).

Bizzocchi, L., F. Tamassia, C. Degli Espostic, L. Dore, M. Villa, and E. Canè:. The high-resolution infrared spectrum of fully deuterated diacetylene below 1000 cm^{-1}. Journal of Quantitative Spectroscopy & Radiative Transfer, 165, 12-21 (2015).

Blagau, A., G. Paschmann, B. Klecker and O. Marghitu: Experimental test of the ρ(1-α) evolution for rotational discontinuities: cluster magnetopause observations. Ann. Geophysicae 33, 79-91 (2015).

Bleem, L.E., B. Stalder, T. de Haan, ..., J.J. Mohr, et al.: Galaxy Clusters Discovered via the Sunyaev-Zel'dovich Effect in the 2500-Square-Degree SPT-SZ Survey. Ap. J. Supp. Ser. 216, 27 (2015).

Bocquet, S., A. Saro, J.J. Mohr, et al.: Mass Calibration and Cosmological Analysis of the SPT-SZ Galaxy Cluster Sample Using Velocity Dispersion σv and X-Ray YX Measurements. Ap. J. 799, 214 (2015).

Bogdán, Á., M. Vogelsberger, R.P. Kraft., L. Hernquist, M. Gilfanov,, P. Torrey., E. Churazov, S. Genel, W.R. Forman, S.S. Murray, A.Vikhlinin, C. Jones, and H. Böhringer: Hot gaseous coronae around spiral galaxies: probing the illustris simulation. Ap. J. 804(1), 72, (2015).

Bolatto, A.D., S.R. Warren, A.K. Leroy, L.J. Tacconi, N. Bouché, N.M. Förster Schreiber, R. Genzel, M.C. Cooper, D.B. Fisher, F. Combes, S. García-Burillo, A. Burkert, F. Bournaud, A. Weiss, A. Saintonge, S. Wuyts and A. Sternberg: High-resolution Imaging of PHIBSS z $\sim$ 2 Main-sequence Galaxies in CO J = 1 $\rightarrow$ 0. Ap. J. 809, 175 (2015).

Boller, T., R. González Felipe, A. Pérez Martínez, H. Pérez Rojas, M.M. Roth and C.A.Z. Vasconcellos: Editors' note. Astron. Nachr. 336, 721 (2015).

Boller, Th. and A. Müller: Obervational Tests of the Pseudo-complex Theory of GR Using Black Hole Candidates, Nuclear Physics: Present and Future.(Ed.) W. Greiner. Springer, ISBN 978-3-319-10198-9, Springer International Publishing Switzerland 2015, 245-253 (2015).

Bonzini, M., V. Mainieri, P. Padovani, P. Andreani, S. Berta, M. Bethermin, D. Lutz, G. Rodighiero, D. Rosario, P. Tozzi and S. Vattakunnel: Star formation properties of sub-mJy radio sources. Mon. Not. R. Astron. Soc. 453, 1079-1094 (2015).

Boselli, A., M. Fossati, G. Gavazzi, L. Ciesla, V. Buat, S. Boissier and T.M. Hughes: Hα imaging of the Herschel Reference Survey. The star formation properties of a volume-limited, K-band-selected sample of nearby late-type galaxies. Astron. Astrophys. 579, 102, (2015).

Bottacini, E., E. Orlando, J. Greiner, M. Ajello, I. Moskalenko and M. Persic: An Extreme Gravitationally Redshifted Iron Line at 4.8 keV in Mrk 876. Ap. J. Lett. 798, L14 (2015).

Bower, G.C., S. Markoff, J. Dexter, M.A. Gurwell, J.M. Moran, A. Brunthaler, H. Falcke, P.C. Fragile, D. Maitra, D. Marrone, A. Peck, A. Rushton and M.C. Wright: Radio and Millimeter Monitoring of Sgr A*: Spectrum, Variability, and Constraints on the G2 Encounter. Ap. J. 802, 69-82 (2015).

Bower, G.C., J. Dexter, S. Markoff, M.A. Gurwell, R. Rao and I. McHardy: A Black Hole Mass-Variability Timescale Correlation at Submillimeter Wavelengths. Ap. J. Lett. 811, L6 (2015).

Bradley Cenko, S., A.L. Urban, D.A. Perley, ..., J.F. Graham, J. Greiner, D.A. Kann, C.R. Klein, F. Knust, ..., K. Varela et al.: iPTF14yb: the first discovery of a gamma-ray burst afterglow independent of a high-energy trigger. Ap. J. 803(2), L24 (2015).

Brennan, R., V. Pandya, R.S. Somerville, G. Barro, E.N. Taylor, S. Wuyts, E.F. Bell, A. Dekel, H.C. Ferguson, D.H. McIntosh, C. Papovich and J. Primack: Quenching and morphological transformation in semi-analytic models and CANDELS. Mon. Not. R. Astron. Soc. 451, 2933-2956 (2015).

Brightman, M., M. Balokovi, D. Stern, et al.: Determining the covering factor of compton-thick active galactic nuclei with NuStar. Ap. J. 805(1), 41, pp. 1-16 (2015).

Broderick, A.E., R. Narayan, J. Kormendy, E.S. Perlman, M.J. Rieke and S.S. Doeleman: The Event Horizon of M87. Ap. J. 805, 179 (2015).

Bruderer, S., D. Harsono and E.F. van Dishoeck: Ro-vibrational excitation of an organic molecule (HCN) in protoplanetary disks. Astron. Astrophys. 575, A94 (2015).

Brusa, M., A. Bongiorno, G. Cresci, M. Perna, A. Marconi, V. Mainieri, R. Maiolino, M. Salvato, E. Lusso, P. Santini, A. Comastri, F. Fiore, R. Gilli, F. La Franca, G. Lanzuisi, D. Lutz, A. Merloni, M. Mignoli, F. Onori, E. Piconcelli, D. Rosario, C. Vignali and G. Zamorani: X-shooter reveals powerful outflows in z $\sim$ 1.5 X-ray selected obscured quasi-stellar objects. Mon. Not. R. Astron. Soc. 446, 2394-2417 (2015).

Brusa, M., C. Feruglio, G. Cresci, V. Mainieri, M.T. Sargent, M. Perna, P. Santini, F. Vito, A. Marconi, A. Merloni, D. Lutz, E. Piconcelli, G. Lanzuisi, R. Maiolino, D. Rosario, E. Daddi, A. Bongiorno, F. Fiore and E. Lusso: Evidence for feedback in action from the molecular gas content in the z $\sim$ 1.6 outflowing QSO XID2028. Astron. Astrophys. 578, A11 (2015).

Buat, V., N. Oi, S. Heinis, L. Ciesla, D. Burgarella, H. Matsuhara, K. Malek, T. Goto, M. Malkan, L. Marchetti, Y. Ohyama, C. Pearson, S. Serjeant, T. Miyaji, M. Krumpe and H. Brunner: Dust attenuation up to z $\approx$ 2 in the AKARI North Ecliptic Pole Deep Field. Astron. Astrophys. 577, A141 (2015).

Buchner, J., A. Georgakakis, K. Nandra, M. Brightman, M.-L. Menzel, Z. Liu, L.-T. Hsu, M. Salvato, C. Rangel, J. Aird, A. Merloni and N. Ross: Obscuration-dependent Evolution of Active Galactic Nuclei. Ap. J. 802, 89 (2015).

Burgess, J. M., F. Ryde and H.-F. Yu: Taking the band function too far: a tale of two α's. Mon. Not. R. Astro. Soc. 451(2), 1511-1521 (2015).

Burgess, D., and M. Scholer: Collisionless Shocks in Space Plasmas: Structure and Accelerated Particles. Cambridge Atmospheric and Space Science Series, Cambridge University Press (2015).

Burkert, A.: The Structure and Dark Halo Core Properties of Dwarf Spheroidal Galaxies. Ap. J. 808, 158 (2015).

Burtscher, L., G. Orban de Xivry, R.I. Davies, A. Janssen, D. Lutz, D. Rosario, A. Contursi, R. Genzel, J. Graciá-Carpio, M.-Y. Lin, A. Schnorr-Müller, A. Sternberg, E. Sturm and

L. Tacconi: Obscuration in active galactic nuclei: near-infrared luminosity relations and dust colors. Astron. Astrophys. 578, A47 (2015).

Böhringer, H. and G. Chon: The extended ROSAT-ESO Flux-Limited X-ray Galaxy Cluster Survey (REFLEX II). VI. Effect of massive neutrinos on the cosmological constraints from clusters. Astron. Astrophys. 574, L8 (2015).

Böhringer, H., G. Chon, M. Bristow and C.A. Collins: The extended ROSAT-ESO Flux-Limited X-ray Galaxy Cluster Survey (REFLEX II). V. Exploring a local underdensity in the southern sky. Astron. Astrophys. 574, A26 (2015).

Cabrera, J., S. Csizmadia, G. Montagnier, ..., S. Carpano, et al.: Transiting exoplanets from the CoRoT space mission - XXVII. CoRoT-28b, a planet orbiting an evolved star, and CoRoT-29b, a planet showing an asymmetric transit. Astron. Astrophys., 579, A36, pp. 1-19 (2015).

Caldú-Primo, A., A. Schruba, F. Walter, A. Leroy, A.D. Bolatto and S. Vogel: Spatially Extended and High-Velocity Dispersion Molecular Component in Spiral Galaxies: Single-Dish Versus Interferometric Observations. Astron. J. 149, 76 (2015).

Campbell, D.J.R., C.M. Baugh, P.D. Mitchell, J.C. Helly, V. Gonzalez-Perez, C.G. Lacey, C.d.P. Lagos, V. Simha and D.J. Farrow: A new methodology to test galaxy formation models using the dependence of clustering on stellar mass. Mon. Not. R. Astron. Soc. 452, 852-871 (2015).

Cappi, A., F. Marulli, J. Bel, ..., S. Phleps, C. Schimd, H. Schlagenhaufer, et al.: The VIMOS Public Extragalactic Redshift Survey (VIPERS) - Hierarchical scaling and biasing. Astron. Astrophys, 579, A70, pp. 1-18 (2015).

Caputi, K.I., O. Ilbert, C. Laigle, H.J. McCracken, O. Le Fèvre, J. Fynbo, B. Milvang-Jensen, P. Capak, M. Salvato and Y. Taniguchi: Spitzer Bright, UltraVISTA Faint Sources in COSMOS: The Contribution to the Overall Population of Massive Galaxies at z = 3-7. Ap. J. 810, 73 (2015).

Carniani, S., A. Marconi, R. Maiolino, B. Balmaverde, M. Brusa, M. Cano-Díaz, C. Cicone, A. Comastri, G. Cresci, F. Fiore, C. Feruglio, F. La Franca, V. Mainieri, F. Mannucci, T. Nagao, H. Netzer, E. Piconcelli, G. Risaliti, R. Schneider and O. Shemmer: Ionised outflows in z $\sim$ 2.4 quasar host galaxies. Astron. Astrophys. 580, A102 (2015).

Cazzoli, G., V. Lattanzi, J.L. Alonso, J. Gauss and C. Puzzarini: The Hyperfine Structure of the Rotational Spectrum of HDO and its Extension to the THz Region: Accurate Rest Frequencies and Spectroscopic Parameters Forastrophysical Observations. Ap. J. 806, 100 (2015).

Celebre, G., G. De Luca, M. E. Di Pietro, B. M. Giuliano, S. Melandri and G. Cinacchi: Detection of Significant Aprotic Solvent Effects on the Conformational Distribution of Methyl 4-Nitrophenyl Sulfoxide: From Gas-Phase Rotational to Liquid-Crystal NMR Spectroscopy. ChemPhysChem 16, 2327-2337 (2015).

Cenko, S.B., A.L. Urban, D.A. Perley, ..., J.F. Graham, J. Greiner, D.A. Kann, C.R. Klein, F. Knust, ..., K. Varela, et al.: iPTF14yb: The First Discovery of a Gamma-Ray Burst Afterglow Independent of a High-energy Trigger. Ap. J. Lett. 803, L24 (2015).

Chakraborti, S., A. Soderberg, L. Chomiuk, ..., A. von Kienlin, A. Rau, X. Zhang and V. Savchenko: A Missing-link in the Supernova-GRB Connection: The Case of SN 2012ap. Ap. J. 805, 187 (2015).

Cassata, P., L.A.M. Tascal, O. Le Fèvre, ..., M. Salvato, et al.: The VIMOS Ultra-Deep Survey (VUDS): fast increase in the fraction of strong Lyman-α emitters from z = 2 to z = 6. Astron. Astrophys. 573, 24C (2015).

Chatterjee, S., J.A. Newman, T. Jeltema, A.D. Myers, J. Aird, A.L. Coil, M. Cooper, A. Finoguenov, E. Laird, A. Montero-Dorta, K. Nandra, C. Willmer and R. Yan: X-ray Surface Brightness Profiles of Active Galactic Nuclei in the Extended Groth Strip:

Implications for AGN Feedback. Publ. Astron. Soc. Pac. 127, 716-725 (2015).

Chatterjee, S., J.A. Newman, T. Jeltema, A.D. Myers, J. Aird, K. Bundy, C. Conselice, M. Cooper, E. Laird, K. Nandra and C. Willmer: X-Ray Emission in Non-AGN Galaxies at z $\approx$ 1. Ap. J. 806, 136 (2015).

Chatzikos, M., R. J. R. Williams, G. J. Ferland, R. E. A. Canning, A. C. Fabian, J. S. Sanders, P. A. M. van Hoof, R. M. Johnstone, M. Lykins and R. L. Porter: Implications of coronal line emission in NGC 4696. Mon. Not. R. Astron. Soc. 446, 1234-1244 (2015).

Chatzopoulos, S., O. Gerhard, T.K. Fritz, C. Wegg, S. Gillessen, O. Pfuhl and F. Eisenhauer: Dust within the nuclear star cluster in the Milky Way. Mon. Not. R. Astron. Soc. 453, 939-950 (2015).

Chatzopoulos, S., T.K. Fritz, O. Gerhard, S. Gillessen, C. Wegg, R. Genzel and O. Pfuhl: The old nuclear star cluster in the Milky Way: dynamics, mass, statistical parallax, and black hole mass. Mon. Not. R. Astron. Soc. 447, 948-968 (2015).

Chiang, C.-T., C. Wagner, A.G. Sánchez, F. Schmidt and E. Komatsu: Position-dependent correlation function from the SDSS-III Baryon Oscillation Spectroscopic Survey Data Release 10 CMASS sample. J. of Cosmology and Astroparticle Phys. 9, 028 (2015).

Choi, Y., F.F.S. van der Tak, E.F. van Dishoeck, F. Herpin and F. Wyrowski: Observations of water with Herschel/HIFI toward the high-mass protostar AFGL 2591. Astron. Astrophys. 576, A85 (2015).

Chon, G. and H. Böhringer: Witnessing a merging bullet being stripped in the galaxy cluster RXCJ2359.3-6042. Astron. Astrophys. 574, A132 (2015).

Chon, G., H. Böhringer and S. Zaroubi: On the definition of superclusters. Astron. Astrophys. 575, L14 (2015).

Choudhury, R., P. Schilke, G. Stéphan, E. Bergin, T. Möller, A. Schmiedeke and A. Zernickel: Evolution of complex organic molecules in hot molecular cores. Synthetic spectra at (sub-)mm wavebands. Astron. Astrophys. 575, A68 (2015).

Cicone, C., R. Maiolino, S. Gallerani, R. Neri, A. Ferrara, E. Sturm, F. Fiore, E. Piconcelli and C. Feruglio: Very extended cold gas, star formation and outflows in the halo of a bright quasar at z $>$ 6. Astron. Astrophys. 574, A14 (2015).

Ciesla, L., V. Charmandaris, A. Georgakakis, E. Bernhard, P.D. Mitchell, V. Buat, D. Elbaz, E. Le Floc'h, C.G. Lacey, G.E. Magdis and M. Xilouris: Constraining the properties of AGN host galaxies with spectral energy distribution modelling. Astron. Astrophys. 576, A10 (2015).

Cisternas, M., K. Sheth, M. Salvato, J.H. Knapen, F. Civano and P. Santini: The Role of Bars in AGN Fueling in Disk Galaxies Over the Last Seven Billion Years. Ap. J. 802, 137 (2015).

Coccato, L., M. Fabricius, L. Morelli, E.M. Corsini, A. Pizzella, P. Erwin, E. Dalla Bontà, R. Saglia, R. Bender and M. Williams: Properties and formation mechanism of the stellar counter-rotating components in NGC 4191. Astron. Astrophys. 581, A65 (2015).

Coe, M.J., E.S. Bartlett, A.J. Bird, F. Haberl, J.A. Kennea, V.A. McBride, L.J. Townsend and A. Udalski: SXP 5.05 = IGR J00569-7226: using X-rays to explore the structure of a Be star's circumstellar disc. Mon. Not. R. Astron. Soc. 447, 2387-2403 (2015).

Collazzi, A.C., C. Kouveliotou, A.J. van der Horst, G.A. Younes, Y. Kaneko, E. Göğüş, L. Lin, J. Granot, M.H. Finger, V.L. Chaplin, D. Huppenkothen, A.L. Watts, A. von Kienlin, M.G. Baring, D. Gruber, P.N. Bhat, M.H. Gibby, N. Gehrels, J. McEnery, M. van der Klis and R.A.M.J. Wijers: The Five Year Fermi/GBM Magnetar Burst Catalog. Ap. J. Supp. Ser. 218, 11 (2015).

Combes, F., S. García-Burillo, V. Casasola, L.K. Hunt, M. Krips, A.J. Baker, F. Boone, A. Eckart, I. Marquez, I., R. Neri, E. Schinnerer, and L.J. Tacconi: ALMA reveals the

feeding of the Seyfert 1 nucleus in NGC 1566. Astron. Astrophys. 565, A97, pp. 1-11 (2015).

Connaughton, V., M.S. Briggs, A. Goldstein, ..., J. Greiner, ..., A. von Kienlin, et al.: Localization of Gamma-Ray Bursts Using the Fermi Gamma-Ray Burst Monitor. Ap. J. Supp. Ser. 216, 32 (2015).

Cooke, E.A., N.A. Hatch, A. Rettura, D. Wylezalek, A. Galametz, et al.: The formation history of massive cluster galaxies as revealed by CARLA. Mon. Not. R. Astron. Soc. 452, 2318-2336 (2015).

Cormier, D., S.C. Madden, V. Lebouteiller, ..., V. Doublier, et al.: The Herschel Dwarf Galaxy Survey. I. Properties of the low-metallicity ISM from PACS spectroscopy. Astron. Astrophys. 578, A53, (2015).

Coti Zelati, F., N. Rea, A. Papitto, ..., G. Ponti, et al.: The X-ray outburst of the Galactic Centre magnetar SGR J1745-2900 during the first 1.5 year. Mon. Not. R. Astron. Soc. 449, 2685-2699 (2015).

Cresci, G., A. Marconi, S. Zibetti, ..., M. Brusa, et al.: The MAGNUM survey: positive feedback in the nuclear region of NGC 5643 suggested by MUSE. Astron. Astrophys. 582, A63 (2015).

Cresci, G., V. Mainieri, M. Brusa, ..., A. Merloni, et al.: Blowin' in the Wind: Both "Negative" and "Positive" Feedback in an Obscured High-z Quasar. Ap. J. 799, 82 (2015).

Csizmadia, S., A. Hatzes, D. Gandolfi, ..., S. Carpano, et al.: Transiting exoplanets from the CoRoT space mission - XXVIII. CoRoT-33b, an object in the brown dwarf desert with 2:3 commensurability with its host star. Astron. Astrophys. 584, A13 (2015).

Dalcanton, J.J., M. Fouesneau, D.W. Hogg, D. Lang, A.K. Leroy, K.D. Gordon, K. Sandstrom, D.R. Weisz, B.F. Williams, E.F. Bell, H. Dong, K.M. Gilbert, D.A. Gouliermis, P. Guhathakurta, T.R. Lauer, A. Schruba, A.C. Seth and E.D. Skillman: The Panchromatic Hubble Andromeda Treasury. VIII. A Wide-area, High-resolution Map of Dust Extinction in M31. Ap. J. 814 (2015).

Davidsson, B.J.R., H. Rickman, J.L. Bandfield, O. Groussin, P.J. Gutiérrez, M. Wilska, M.T. Capria, J.P. Emery, J. Helbert, L. Jorda, A. Maturilli and T.G. Mueller: Interpretation of thermal emission. I. The effect of roughness for spatially resolved atmosphereless bodies. Icarus 252, 1-21 (2015).

Davies, R.I., L. Burtscher, D. Rosario, T. Storchi-Bergmann, A. Contursi, R. Genzel, J. Graciá-Carpio, E. Hicks, A. Janssen, M. Koss, M.-Y. Lin, D. Lutz, W. Maciejewski, F. Müller-Sánchez, G. Orbande Xivry, C. Ricci, R. Riffel, R.A. Riffel, M. Schartmann, A. Schnorr-Müller, A. Sternberg, E. Sturm, L. Tacconi and S. Veilleux: Insights on the Dusty Torus and Neutral Torus from Optical and X-Ray Obscuration in a Complete Volume Limited Hard X-Ray AGN Sample. Ap. J. 806, 127 (2015).

Dawson, J.R., E. Ntormousi, Y. Fukui, T. Hayakawa and K. Fierlinger: A Young Giant Molecular Cloud Formed at the Interface of Two Colliding Supershells: Observations Meet Simulations. Ap. J. 799, 64 (2015).

De Cicco, D., M. Paolillo, G. Covone, ..., M. Salvato, et al.: Variability-selected active galactic nuclei in the VST-SUDARE/VOICE survey of the COSMOS field. Astron. Astrophys. 574, A112 (2015).

De Marco, B., G. Ponti, T. Muñoz-Darias and K. Nandra: The evolution of the disc variability along the hard state of the black hole transient GX 339-4. Mon. Not. R. Astron. Soc. 454, 2360-2371 (2015).

De Marco, B., G. Ponti, T. Muñoz-Darias and K. Nandra: Tracing the Reverberation Lag in the Hard State of Black Hole X-Ray Binaries. Ap. J. 814, 50 (2015).

Delvecchio, I., D. Lutz, S. Berta, D.J. Rosario, ..., M. Brusa, ..., G. Lanzuisi, et al.: Mapping

the average AGN accretion rate in the SFR-M* plane for Herschel-selected galaxies at $0 < z \leq 2.5$. Mon. Not. R. Astron. Soc. 449, 373-389 (2015).

Desai, S., J.J. Mohr, R. Henderson, M. Kümmel, K. Paech and M. Wetzstein: CosmoDM and its application to Pan-STARRS data. Journal of Instrumentation, 10(6), C06014, 1-12 (2015).

Di Gesu, L., E. Costantini, J. Ebrero, ..., B. De Marco, ..., G. Ponti, et al.: Anatomy of the AGN in NGC 5548. IV. The short-term variability of the outflows. Astron. Astrophys. 579, A42 (2015).

Diebold, S.D., C.T. Tenzer, E.P. Perinati, A.S. Santangelo, M.F. Freyberg, P.F. Friedrich and J.J. Jochum: Soft proton scattering efficiency measurements on x-ray mirror shells. Exp. Astron. 39, 343-365 (2015).

Diehl, R., T. Siegert, W. Hillebrandt, M. Krause, J. Greiner, K. Maeda, F.K. Röpke, S.A. Sim, W. Wang and X. Zhang: SN2014J gamma rays from the ^{56}Ni decay chain. Astron. Astrophys. 574, A72 (2015).

Diehl, R.: Gamma rays from a supernova of type Ia: SN2014J. Astron. Nachr. 336, 464 (2015).

Dotti, M., A. Merloni and C. Montuori: Linking the fate of massive black hole binaries to the active galactic nuclei luminosity function. Mon. Not. R. Astron. Soc. 448, 3603-3607 (2015).

Drlica-Wagner, A., A. Albert, K. Bechtol, ..., J. Mohr, et al.: Search for Gamma-Ray Emission from DES Dwarf Spheroidal Galaxy Candidates with Fermi-LAT Data. Ap. J. Lett. 809, L4 (2015).

Drlica-Wagner, A., K. Bechtol, E.S. Rykoff, ..., D. Gruen, et al.: Eight ultra-faint galaxy candidates discovered in year two of the dark energy survey. Ap. J. 813(2), 109, pp. 1-20 (2015).

Drozdovskaya, M.N., C. Walsh, R. Visser, D. Harsono and E.F. van Dishoeck: The complex chemistry of outflow cavity walls exposed: the case of low-mass protostars. Mon. Not. R. Astron. Soc. 451, 3836-3856 (2015).

Durkalec, A., O. Le Fèvre, A. Pollo, ..., M. Salvato, et al.: Evolution of clustering length, large-scale bias, and host halo mass at $2 < z < 5$ in the VIMOS Ultra Deep Survey (VUDS)*. Astron. Astrophys. 583, A128 (2015).

Durkalec, A., O. Le Fèvre, S. de la Torre, ..., M. Salvato, et al.: Stellar mass to halo mass relation from galaxy clustering in VUDS: a high star formation efficiency at $z \sim 3$. Astron. Astrophys. 576, L7 (2015).

Eardley, E., J.A. Peacock, T. McNaught-Roberts, ..., D.J. Farrow, et al.: Galaxy And Mass Assembly (GAMA): the galaxy luminosity function within the cosmic web. Mon. Not. R. Astron. Soc. 448, 3665-3678 (2015).

Eisenhauer, F. and W. Raab: Visible/Infrared Imaging Spectroscopy and Energy-Resolving Detectors. Annual Review of Astronomy and Astrophysics 53, 155-197 (2015).

Elliott, J., R.S. de Souza, A. Krone-Martins, E. Cameron, E.E.O. Ishida, and J. Hilbe: The overlooked potential of Generalized Linear Models in astronomy - II: Gamma regression and photometric redshifts. Astronomy and Computing, 10, 61-72 (2015).

Elliott, J., S. Khochfar, J. Greiner and C. Dalla Vecchia: The First Billion Years project: gamma-ray bursts at $z > 5$. Mon. Not. R. Astron. Soc. 446, 4239-4249 (2015).

Erwin, P., R.P. Saglia, M. Fabricius, J. Thomas, N. Nowak, S. Rusli, R. Bender, J.C. Vega Beltrán and J.E. Beckman: Composite bulges: the coexistence of classical bulges and discy pseudo-bulges in S0 and spiral galaxies. Mon. Not. R. Astron. Soc. 446, 4039-4077 (2015).

Erwin, P.: IMFIT: A Fast, Flexible New Program for Astronomical Image Fitting. Ap. J. 799, 226 (2015).

Evans, M.G., J.D. Ilee, A.C. Boley, P. Caselli, R.H. Durisen, T.W. Hartquist and J.M.C. Rawlings: Gravitational instabilities in a protosolar-like disc - I. Dynamics and chemistry. Mon. Not. R. Astron. Soc. 453, 1147-1163 (2015).

Faber, S.M. and E. van Dishoeck: Introduction. Annual Review of Astronomy and Astrophysics 53, V-VII (2015).

Falocco, S., M. Paolillo, G. Covone, ..., M. Salvato, et al.: SUDARE-VOICE variability-selection of active galaxies in the Chandra Deep Field South and the SERVS/SWIRE region. Astron. Astrophys. 579, A115 (2015).

Farrow, D.J., S. Cole, P. Norberg, et al.: Galaxy and mass assembly (GAMA): projected galaxy clustering. Mon. Not. R. Astron. Soc. 454, 2120-2145 (2015).

Fayolle, E.C., K.I. Öberg, R.T. Garrod, E.F. van Dishoeck and S.E. Bisschop: Complex organic molecules in organic-poor massive young stellar objects. Astron. Astrophys. 576, A45 (2015).

Fedele, D., S. Bruderer, M.E. van den Ancker and I. Pascucci: On the Asymmetry of the OH Ro-vibrational Lines in HD 100546. Ap. J. 800, 23 (2015).

Finoguenov, A., M. Tanaka, M. Cooper, ..., D. Wilman, et al.: Ultra-deepcatalog of X-ray groups in the Extended Chandra Deep Field South. Astron. Astrophys. 576, A130 (2015).

Fomalont, E. B., C. Vlahakis, S. Corder, ..., J. Pineda, et al.: The 2014 ALMA long baseline campaign: an overview. Ap. J.L. 809(1), L1, pp. 1-11 (2015).

Fontani, F., G. Busquet, A. Palau, P. Caselli, Á. Sánchez-Monge, J.C. Tan and M. Audard: Deuteration and evolution in the massive star formation process. The role of surface chemistry. Astron. Astrophys. 575, A87 (2015).

Fontani, F., P. Caselli, A. Palau, L. Bizzocchi and C. Ceccarelli: First Measurements of ^{15}N Fractionation in N_2H^+ toward High-mass Star-forming Cores. Ap. J. Lett. 808, L46 (2015).

Fontanot, F., A.V. Macciò, M. Hirschmann, G. De Lucia, R. Kannan, R.S. Somerville and D. Wilman: On the dependence of galaxy morphologies on galaxy mergers. Mon. Not. R. Astron. Soc. 451, 2968-2977 (2015).

Fossati, M., D.J. Wilman, F. Fontanot, G. De Lucia, P. Monaco, M. Hirschmann, J.T. Mendel, A. Beifiori and E. Contini: The definition of environment and its relation to the quenching of galaxies at z = 1-2 in a hierarchical Universe. Mon. Not. R. Astron. Soc. 446, 2582-2598 (2015).

Franco, G.A.P. and F.O. Alves: Tracing the Magnetic Field Morphology of the Lupus I Molecular Cloud. Ap. J. 807, 5 (2015).

Frau, P., J.M. Girart, F.O. Alves, G.A.P. Franco, T. Onishi and C.G. Román-Zúñiga: Formation of dense structures induced by filament collisions. Correlation of density, kinematics, and magnetic field in the Pipe nebula. Astron. Astrophys. 574, L6 (2015).

Friis, M., A. De Cia, T. Krühler, ..., K. Varela, ..., J. Greiner, ..., F. Knust, et al.: The warm, the excited, and the molecular gas: GRB 121024A shining through its star-forming galaxy. Mon. Not. R. Astron. Soc. 451, 167-183 (2015).

Furuya, K., Y. Aikawa, U. Hincelin, G.E. Hassel, E.A. Bergin, A.I. Vasyunin and E. Herbst: Water deuteration and ortho-to-para nuclear spin ratio of H_2 in molecular clouds formed via the accumulation of H I gas. Astron. Astrophys. 584, A124 (2015).

Gaczkowski, B., T. Preibisch, T. Stanke, M.G.H. Krause, A. Burkert, R. Diehl, K. Fierlinger, D. Kroell, J. Ngoumou and V. Roccatagliata: Squeezed between shells? The origin

of the Lupus I molecular cloud. APEX/LABOCA, Herschel, and Planck observations. Astron. Astrophys. 584, A36 (2015).

García-Burillo, S., F. Combes, A. Usero, ..., L.J. Tacconi and P.P. van der Werf: High-resolution imaging of the molecular outflows in two mergers: IRAS 17208-0014 and NGC 1614. Astron. Astrophys. 580, A35 (2015).

Gavazzi, G., G. Consolandi, M. Dotti, R. Fanali, M. Fossati, et al.: Hα3: an Hα imaging survey of HI selected galaxies from ALFALFA. VI. The role of bars in quenching star formation from z = 3 to the present epoch. Astron. Astrophys. 580, 116, (2015).

Gavazzi, G., G. Consolandi, E. Viscardi, M. Fossati, et al.: Hα3: an Hα imaging survey of HI selected galaxies from ALFALFA. V. The Coma supercluster survey completion. Astron. Astrophys. 576, 16, (2015).

Gazak, J.Z., R. Kudritzki, C. Evans, L. Patrick, B. Davies, M. Bergemann, B. Plez, F. Bresolin, R. Bender, M. Wegner, A.Z. Bonanos and S.J. Williams: Red Supergiants as Cosmic Abundance Probes: The Sculptor Galaxy NGC 300. Ap. J. 805, 182 (2015).

Genzel, R., L.J. Tacconi, D. Lutz, A. Saintonge, S. Berta, B. Magnelli, F. Combes, S. García-Burillo, R. Neri, A. Bolatto, T. Contini, S. Lilly, J. Boissier, F. Boone, N. Bouché, F. Bournaud, A. Burkert, M. Carollo, L. Colina, M.C. Cooper, P. Cox, C. Feruglio, N.M. Förster Schreiber, J. Freundlich, J. Gracia-Carpio, S. Juneau, K. Kovac, M. Lippa, T. Naab, P. Salome, A. Renzini, A. Sternberg, F. Walter, B. Weiner, A. Weiss and S. Wuyts: Combined CO and Dust Scaling Relations of Depletion Time and Molecular Gas Fractions with Cosmic Time, Specific Star-formation Rate, and Stellar Mass. Ap. J. 800, 20 (2015).

Georgakakis, A., J. Aird, J. Buchner, M. Salvato, M.-L. Menzel, W.N. Brandt, I.D. McGreer, T. Dwelly, G. Mountrichas, C. Koki, I. Georgantopoulos, L.-T. Hsu, A. Merloni, Z. Liu, K. Nandra and N.P. Ross: The X-ray luminosity function of active galactic nuclei in the redshift interval z=3-5. Mon. Not. R. Astron. Soc. 453, 1946-1964 (2015).

Georgakakis, A: The X-ray luminosity function of active galactic nuclei in the redshift interval z=3-5. Mon. Not. R. Astron. Soc. 453, 1946-1964 (2015).

George, E.M., C.L. Reichardt, K.A. Aird, ..., J.J. Mohr, et a.: A Measurement of Secondary Cosmic Microwave Background Anisotropies from the 2500 Square-degree SPT-SZ Survey. Ap. J. 799, 177 (2015).

Gesu, L. D., E. Costantini, J. Ebrero, ..., B. De Marco, ..., G. Ponti, et al.: Anatomy of the AGN in NGC 5548 - IV. The short-term variability of the outflows. Astron. Astrophys. 579, A42, pp. 1-12 (2015).

Giallongo, E., A. Grazian, F. Fiore, ..., M. Salvato: Faint AGNs at z $>$ 4 in the CANDELS GOODS-S field: looking for contributors to the reionization of the Universe. Astron. Astrophys. 578, A83 (2015).

Girardi, M., A. Mercurio, I. Balestra, ..., A. Monna, E. Munari, S. Seitz, M. Verdugo and B. Ziegler: CLASH-VLT: Substructure in the galaxy cluster MACS J1206.2-0847 from kinematics of galaxy populations. Astron. Astrophys. 579, A4 (2015).

Goździewski, K., A. Slowikowska, D. Dimitrov, K. Krzeszowski, M. Żejmo, G. Kanbach, V. Burwitz, A. Rau, P. Irawati, A. Richichi, M. Gawroński, G. Nowak, I. Nasiroglu and D. Kubicki: The HU Aqr planetary system hypothesis revisited. Mon. Not. R. Astron. Soc. 448, 1118-1136 (2015).

González-Alfonso, E., J. Fischer, E. Sturm, J. Graciá-Carpio, S. Veilleux, M. Meléndez, D. Lutz, A. Poglitsch, S. Aalto, N. Falstad, H.W.W. Spoon, D. Farrah, A. Blasco, C. Henkel, A. Contursi, A. Verma, M. Spaans, H.A. Smith, M.L.N. Ashby, S. Hailey-Dunsheath, S. García-Burillo, J. Martín-Pintado, P. van der Werf, R. Meijerink and R. Genzel: High-lying OH Absorption, [C II] Deficits, and Extreme L_{FIR}/M_{H2} Ratios in Galaxies. Ap. J. 800, 69 (2015).

Goto, M., T.R. Geballe and T. Usuda: Infrared Absorption Lines Toward NGC 7538 IRS 1: Abundances of H_2, H_3^+, and CO. Ap. J. 806, 57G (2015).

Grazian, A., A. Fontana, P. Santini, ..., A. Galametz, ..., M. Salvato, et al.: The galaxy stellar mass function at $3.5 \leq z \leq 7.5$ in the CANDELS/UDS, GOODS-South, and HUDF fields. Astron. Astrophys. 575, A96 (2015).

Greene, J.E., R. Janish, C.-P. Ma, N.J. McConnell, J.P. Blakeslee, J. Thomas and J.D. Murphy: The MASSIVE Survey. II. Stellar Population Trends Out to Large Radius in Massive Early-type Galaxies. Ap. J. 807, 11 (2015).

Greiner, J. and G.A. Richter: Optical counterparts of ROSAT X-ray sources in two selected fields at low vs. high Galactic latitudes. Astron. Astrophys. 575, A42 (2015).

Greiner, J., D.B. Fox, P. Schady, T. Krühler, M. Trenti, A. Cikota, J. Bolmer, J. Elliott, C. Delvaux, R. Perna, P. Afonso, D.A. Kann, S. Klose, S. Savaglio, S. Schmidl, T. Schweyer, M. Tanga and K. Varela: Gamma-Ray Bursts Trace UV Metrics of Star Formation over $3 < z < 5$. Ap. J. 809, 76 (2015).

Greiner, J., P.A. Mazzali, D.A. Kann, T. Krühler, .., F. Knust, P.M.J. Afonso, C. Ashall, J. Bolmer, C. Delvaux, R. Diehl, J. Elliott, R. Filgas, J.P.U. Fynbo, J.F. Graham, ..., P. Schady, S. Schmidl, T. Schweyer, V. Sudilovsky, M. Tanga, A.C. Updike, H. van Eerten and K. Varela: A very luminous magnetar-powered supernova associated with an ultra-long γ-ray burst. Nature 523, 189-192 (2015).

Greisel, N., S. Seitz, N. Drory, R. Bender, R.P. Saglia and J. Snigula: Photometric redshifts and model spectral energy distributions of galaxies from the SDSS-III BOSS DR10 data. Mon. Not. R. Astron. Soc. 451, 1848-1867 (2015).

Grenier, I.A., J.H. Black and A.W. Strong: The Nine Lives of Cosmic Rays in Galaxies. Annual Review of Astronomy and Astrophysics 53, 199-246 (2015).

Grossi, M., L.K. Hunt, S.C. Madden, ..., L. Bizzocchi, et al.: The Herschel Virgo Cluster Survey. XVIII. Star-forming dwarf galaxies in a cluster environment. Astron. Astrophys. 574, A126 (2015).

Gruen, D., S. Seitz, M.R. Becker, O. Friedrich and A. Mana: Cosmic variance of the galaxy cluster weak lensing signal. Mon. Not. R. Astron. Soc. 449, 4264-4276 (2015).

Gruppioni, C., F. Calura, F. Pozzi, I. Delvecchio, S. Berta, G. De Lucia, F. Fontanot, A. Franceschini, L. Marchetti, N. Menci, P. Monaco and M. Vaccari: Star formation in Herschel's Monsters versus semi-analytic models. Mon. Not. R. Astron. Soc. 451, 3419-3426 (2015).

Gvaramadze, V.V., A.Y. Kniazev, J.M. Bestenlehner, J. Bodensteiner, N. Langer, J. Greiner, E.K. Grebel, L.N. Berdnikov and Y. Beletsky: The blue supergiant MN18 and its bipolar circumstellar nebula. Mon. Not. R. Astron. Soc. 454, 219-237 (2015).

Haerendel, G.: Flow bursts, breakup arc, and substorm current wedge. J. Geophys. Res. (Space Phys.) 120, 2796-2807 (2015).

Haerendel, G.: Substorm onset: Current sheet avalanche and stop layer. J. Geophys. Res. (Space Phys.) 120, 1697-1714 (2015).

Harsono, D., E.F. van Dishoeck, S. Bruderer, Z.-Y. Li and J.K. Jørgensen: Testing protostellar disk formation models with ALMA observations. Astron. Astrophys. 577, A22 (2015).

Harsono, D., S. Bruderer and E.F. van Dishoeck: Volatile snowlines in embedded disks around low-mass protostars. Astron. Astrophys. 582, A41 (2015).

Haworth, T.J., T.J. Harries, D.M. Acreman and T.G. Bisbas: On the relative importance of different microphysics on the D-type expansion of galactic H II regions. Mon. Not. R. Astron. Soc. 453, 2277-2289 (2015).

Hays, B. M., N. Wehres, B. Alligood De Prince, A. A. M. Roy, J. C. Laas and S. L. Widicus Weaver: Rotational spectral studies of O(1D) insertion reactions with methane and ethylene: Methanol and vinyl alcohol in a supersonic expansion. Chemical Physics Letters 630, 18-26 (2015).

Heesen, V., E. Brinks, M.G.H. Krause, J.J. Harwood, U. Rau, M.P. Rupen, D.A. Hunter, K.T. Chyż and G. Kitchener: The non-thermal superbubble in IC 10: the generation of cosmic ray electrons caught in the act. Mon. Not. R. Astron. Soc. 447, L1-L5 (2015).

Herrera-Camus, R, A.D. Bolatto, M.G. Wolfire, et al.: [C II] 158 μm Emission as a Star Formation Tracer. Ap. J. 800, 1H (2015).

Hocuk, S. and S. Cazaux: Interplay of gas and ice during cloud evolution. Astron. Astrophys. 576, A49 (2015).

Holland, J.G., H. Böhringer, G. Chon and D. Pierini: Optical and X-ray profiles in the REXCESS sample of galaxy clusters*. Mon. Not. R. Astron. Soc. 448, 2644-2664 (2015).

Hoyle, B., M.M. Rau, C. Bonnett, S. Seitz and J. Weller: Data augmentation for machine learning redshifts applied to Sloan Digital Sky Survey galaxies. Mon. Not. R. Astron. Soc. 450, 305-316 (2015).

Hoyle, B., M.M. Rau, K. Paech, C. Bonnett, S. Seitz and J. Weller: Anomaly detection for machine learning redshifts applied to SDSS galaxies. Mon. Not. R. Astron. Soc. 452, 4183-4194 (2015).

Hoyle, B., M.M. Rau, R. Zitlau, S. Seitz and J. Weller: Feature importance for machine learning redshifts applied to SDSS galaxies. Mon. Not. R. Astron. Soc. 449, 1275-1283 (2015).

Hozumi, S. and A. Burkert: Development of multiple tidal tails around globular clusters and dwarf satellite galaxies. Mon. Not. R. Astron. Soc. 446, 3100-3109 (2015).

Hunt, L.K., S. García-Burillo, V. Casasola, P. Caselli, F. Combes, C. Henkel, A. Lundgren, R. Maiolino, K.M. Menten, L. Testi and A. Weiss: Molecular depletion times and the CO-to-H_2 conversion factor in metal-poor galaxies. Astron. Astrophys. 583, A114 (2015).

I. Zhuravleva, E. Churazov, P. Arévalo, ..., J. S. Sanders, et al.: Gas density fluctuations in the Perseus Cluster: clumping factor and velocity power spectrum. Mon. Not. R. Astron. Soc. 450, 4184-4197 (2015).

Ikeda, H., T. Nagao, Y. Taniguchi, K. Matsuoka, ..., M. Salvato, et al.: The Quasar-LBG Two-point Angular Cross-correlation Function at z$\sim$4 in the COSMOS Field. Ap. J. 809, 138 (2015).

Ilbert, O., S. Arnouts, E. Le Floc'h, ..., M. Salvato, et al.: Evolution of the specific star formation rate function at z$<$ 1.4 Dissecting the mass-SFR plane in COSMOS and GOODS. Astron. Astrophys. 579, A2 (2015).

Indriolo, N., D.A. Neufeld, M. Gerin, P. Schilke, A.O. Benz, B. Winkel, K.M. Menten, E.T. Chambers, J.H. Black, S. Bruderer, E. Falgarone, B. Godard, J.R. Goicoechea, H. Gupta, D.C. Lis, V. Ossenkopf, C.M. Persson, P. Sonnentrucker, F.F.S. van der Tak, E.F. van Dishoeck, M.G. Wolfire and F. Wyrowski: Herschel Survey of Galactic OH^+, $H_2 2O^+$, and H_3O^+: Probing the Molecular Hydrogen Fraction and Cosmic-Ray Ionization Rate. Ap. J. 800, 40 (2015).

Ivlev, A.V., J. Bartnick, M. Heinen, C.-R. Du, V. Nosenko and H. Löwen: Statistical Mechanics where Newton's Third Law is Broken. Physical Review X 5, 011035 (2015).

Ivlev, A.V., M. Padovani, D. Galli and P. Caselli: Interstellar Dust Charging in Dense Molecular Clouds: Cosmic Ray Effects. Ap. J. 812, 135 (2015).

Ivlev, A.V., T.B. Röcker, A. Vasyunin and P. Caselli: Impulsive Spot Heating and Thermal

Explosion of Interstellar Grains Revisited. Ap. J. 805, 59 (2015).

Ivlev, A.V., T.B. Röcker, L. Couëdel, V. Nosenko and C.-R. Du: Wave modes in shear-deformed two-dimensional plasma crystals. Physical Review E 91, 063108 (2015).

Janssen, A.W., S. Bruderer, E. Sturm, A. Contursi, R. Davies, S. Hailey-Dunsheath, A. Poglitsch, R. Genzel, J. Graciá-Carpio, D. Lutz, L. Tacconi, J. Fischer, E. González-Alfonso, A. Sternberg, S. Veilleux, A. Verma and L. Burtscher: A Deep Herschel/PACS Observation of CO(40-39) in NGC 1068: A Search for the Molecular Torus. Ap. J. 811, 74 (2015).

Johnson, M.D., V.L. Fish, S.S. Doeleman, ..., J. Dexter, et al.: Resolved magnetic-field structure and variability near the event horizon of Sagittarius A*. Science 350, 1242-1245 (2015).

Kartaltepe, J.S., D.B. Sanders, J.D. Silverman, ..., M. Salvato, et al.: Rest-frame Optical Emission Lines in Far-infrared-selected Galaxies at z $<$ 1.7 from the FMOS-COSMOS Survey. Ap. J. Lett. 806, L35 (2015).

Kartaltepe, J.S., M. Mozena, D. Kocevski, ..., D. Rosario, ..., and S. Wuyts: CANDELS Visual Classifications: Scheme, Data Release, and First Results. Ap. J. Supp. Ser. 221, 11 (2015).

Kavanagh, P.J., M. Sasaki, E.T. Whelan, P. Maggi, F. Haberl, L.M. Bozzetto, M.D. Filipović and E.J. Crawford: XMM-Newton observation of SNR J0533-7202 in the Large Magellanic Cloud. Astron. Astrophys. 579, A63 (2015).

Kavanagh, P.J., M. Sasaki, L.M. Bozzetto, M.D. Filipović, S.D. Points, P. Maggi and F. Haberl: XMM-Newton study of 30 Doradus C and a newly identified MCSNR J0536-6913 in the Large Magellanic Cloud*. Astron. Astrophys. 573, A73 (2015).

Kavanagh, P.J., M. Sasaki, L.M. Bozzetto, S.D. Points, M.D. Filipović, P. Maggi, F. Haberl and E.J. Crawford: Multi-frequency study of the newly confirmed supernova remnant MCSNR J0512-6707 in the Large Magellanic Cloud. Astron. Astrophys. 583, A121 (2015).

Keto, E., P. Caselli and J. Rawlings: The dynamics of collapsing cores and star formation. Mon. Not. R. Astron. Soc. 446, 3731-3740 (2015).

Kiss, C., T.G. Müller, M. Kidger, P. Mattisson, G. Marton: Comet C/2013 A1 (Siding Spring) as seen with the Herschel Space Observatory. Astron. Astrophys. 574, L3 (2015).

Kissmann, R., M. Werner, O. Reimer and A.W. Strong: Propagation in 3D spiral-arm cosmic-ray source distribution models and secondary particle production using PICARD. Astroparticle Phys. 70, 39-53 (2015).

Kocevski, D.D., M. Brightman, K. Nandra, A.M. Koekemoer, M. Salvato, et al.: Are Compton-thick AGNs the Missing Link between Mergers and Black Hole Growth?. Ap. J. 814, 104 (2015).

Kodric, M., A. Riffeser, S. Seitz, J. Snigula, U. Hopp, C.-H. Lee, C. Goessl, J. Koppenhoefer, R. Bender and W. Gieren: The M31 Near-infrared Period-Luminosity Relation and its Non-linearity for δ Cep Variables with 0.5 $<=$ log (P) $<=$ 1.7. Ap. J. 799, 144 (2015).

Kong, S., P. Caselli, J.C. Tan, V. Wakelam and O. Sipilä: The Deuterium Fractionation Timescale in Dense Cloud Cores: A Parameter Space Exploration. Ap. J. 804, 98 (2015).

Kosyra, R., D. Gruen, S. Seitz, A. Mana, E. Rozo, E. Rykoff, A. Sanchez and R. Bender: Environment-based selection effects of Planck clusters. Mon. Not. R. Astron. Soc. 452, 2353-2366 (2015).

Koyama, Y., T. Kodama, M. Hayashi, R. Shimakawa, I. Yamamura, F. Egusa, N. Oi, I.

Tanaka, K.-i. Tadaki, S. Takita and S. Makiuti: Predicting dust extinction properties of star-forming galaxies from Hα/UV ratio. Mon. Not. R. Astron. Soc. 453, 879-892 (2015).

Krause, M.G.H., R. Diehl, Y. Bagetakos, E. Brinks, A. Burkert, O. Gerhard, J. Greiner, K. Kretschmer and T. Siegert: ^{26}Al kinematics: superbubbles following the spiral arms?. Constraints from the statistics of star clusters and HI supershells. Astron. Astrophys. 578, A113 (2015).

Krumpe, M., T. Miyaji, H. Brunner, H. Hanami, T. Ishigaki, T. Takagi, A.G. Markowitz, T. Goto, M.A. Malkan, H. Matsuhara, C. Pearson, Y. Ueda and T. Wada: Chandra survey in the AKARI North Ecliptic Pole Deep Field - I. X-ray data, point-like source catalogue, sensitivity maps, and number counts. Mon. Not. R. Astron. Soc. 446, 911-931 (2015).

Krühler, T., D. Malesani, J.P.U. Fynbo, ..., P. Schady, ..., J. Bolmer, ..., J.F. Graham, J. Greiner, et al.: GRB hosts through cosmic time. VLT/X-Shooter emission-line spectroscopy of 96 γ-ray-burst-selected galaxies at $0.1 < z < 3.6$. Astron. Astrophys. 581, A125 (2015).

Kudritzki, R.-P., I.-T. Ho, A. Schruba, A. Burkert, H.J. Zahid, F. Bresolin and G.I. Dima: The chemical evolution of local star-forming galaxies: radial profiles of ISM metallicity, gas mass, and stellar mass and constraints on galactic accretion and winds. Mon. Not. R. Astron. Soc. 450, 342-359 (2015).

La Franca, F., F. Onori, F. Ricci, E. Sani, M. Brusa, R. Maiolino, S. Bianchi, A. Bongiorno, F. Fiore, A. Marconi and C. Vignali: Extending virial black hole mass estimates to low-luminosity or obscured AGN: the cases of NGC 4395 and MCG -01-24-012. Mon. Not. R. Astron. Soc. 449, 1526-1535 (2015).

Lanzuisi, G., M. Perna, I. Delvecchio, S. Berta, M. Brusa, N. Cappelluti, A. Comastri, R. Gilli, C. Gruppioni, M. Mignoli, F. Pozzi, G. Vietri, C. Vignali and G. Zamorani: The most obscured AGN in the COSMOS field. Astron. Astrophys. 578, A120 (2015).

Lanzuisi, G., P. Ranalli, I. Georgantopoulos, A. Georgakakis, I. Delvecchio, T. Akylas, S. Berta, A. Bongiorno, M. Brusa, N. Cappelluti, F. Civano, A. Comastri, R. Gilli, C. Gruppioni, G. Hasinger, K. Iwasawa, A. Koekemoer, E. Lusso, S. Marchesi, V. Mainieri, A. Merloni, M. Mignoli, E. Piconcelli, F. Pozzi, D.J. Rosario, M. Salvato, J. Silverman, B. Trakhtenbrot, C. Vignali and G. Zamorani: Compton thick AGN in the XMM-COSMOS survey. Astron. Astrophys. 573, A137 (2015).

Lattanzi, V., G. Cazzoli and C. Puzzarini: Rare Isotopic Species of Sulfur Monoxide: The Rotational Spectrum in the THz Region. Ap. J. 813, 4 (2015).

Laut, I., C. Räth, S. Zhdanov, V. Nosenko, L. Couëdel and H.M. Thomas: Synchronization of particle motion in compressed two-dimensional plasma crystals. EPL (Europhysics Letters) 110, 65001 (2015).

Le Fèvre, O., L.A.M. Tasca, P. Cassata, ..., M. Salvato, : The VIMOS Ultra-Deep Survey: $\sim$10 000 galaxies with spectroscopic redshifts to study galaxy assembly at early epochs $2 < z \sim 6$. Astron. Astrophys. 576, A79 (2015).

Lee, C.-H., A. Riffeser, S. Seitz, R. Bender and J. Koppenhoefer: Microlensing Events from the 11 Year Observations of the Wendelstein Calar Alto Pixellensing Project. Ap. J. 806, 161 (2015).

Leiton, R., D. Elbaz, K. Okumura, ..., P. Popesso:. GOODS-Herschel: identification of the individual galaxies responsible for the 80-290 μm cosmic infrared background. Astron. Astrophys. 579, A93, (2015).

Lellouch, E., R. Moreno, G.S. Orton, H. Feuchtgruber, T. Cavalié, J.I. Moses, P. Hartogh, C. Jarchow and H. Sagawa: New constraints on the CH4 vertical profile in Uranus and Neptune from Herschel observations. Astron. Astrophys. 579, A121 (2015).

Lena, D., A. Robinson, T. Storchi-Bergman, A. Schnorr-Müller, T. Seelig, R.A. Riffel, N.M. Nagar, G.S. Couto and L. Shadler: The Complex Gas Kinematics in the Nucleus of the Seyfert 2 Galaxy NGC 1386: Rotation, Outflows, and Inflows. Ap. J. 806, 84 (2015).

Leroy, A.K., A.D. Bolatto, E.C. Ostriker, E. Rosolowsky, F. Walter, S.R. Warren, J. Donovan Meyer, J. Hodge, D.S. Meier, J. Ott, K. Sandstrom, A. Schruba, S. Veilleux and M. Zwaan: ALMA Reveals the Molecular Medium Fueling the Nearest Nuclear Starburst. Ap. J. 801, 25 (2015).

Lewis, A.R., A.E. Dolphin, J.J. Dalcanton, ..., A. Schruba: The Panchromatic Hubble Andromeda Treasury. XI. The Spatially Resolved Recent Star Formation History of M31. Ap. J. 805, 183 (2015).

Li, Y.-P., F. Yuan, Q. Yuan, Q.D. Wang, P.F. Chen, J. Neilsen, T. Fang, S. Zhang and J. Dexter: Statistics of X-Ray Flares of Sagittarius A*: Evidence for Solar-like Self-organized Criticality Phenomena. Ap. J. 810, 19 (2015).

Liao, J., L.M. Kistler, C.G. Mouikis, B. Klecker and I. Dandouras: Acceleration of O^+ from the cusp to the plasma sheet. J. Geophys. Res. (Space Phys.) 120, 1022-1034 (2015).

Ligterink, N.F.W., E.D. Tenenbaum and E.F. van Dishoeck: Search for methylamine in high mass hot cores. Astron. Astrophys. 576, A35 (2015).

Liu, J., C. Hennig, S. Desai, ..., J.J. Mohr, et al.: Optical confirmation and redshift estimation of the Planck cluster candidates overlapping the Pan-STARRS Survey. Mon. Not. R. Astron. Soc. 449, 3370-3380 (2015).

Liu, J., J. Mohr, A. Saro, et al.: Analysis of Sunyaev-Zel'dovich effect mass-observable relations using South Pole Telescope observations of an X-ray selected sample of low-mass galaxy clusters and groups. Mon. Not. R. Astron. Soc. 448, 2085-2099 (2015).

Liu, Y., G.J. Herczeg, M. Gong, ..., E.F. van Dishoeck: Herschel/PACS view of disks around low-mass stars and brown dwarfs in the TW Hydrae association. Astron. Astrophys. 573, A63 (2015).

Lockhart, K.E., L.J. Kewley, J.R. Lu, M.G. Allen, D. Rupke, D. Calzetti, R.I. Davies, M.A. Dopita, H. Engel, T.M. Heckman, C. Leitherer and D.B. Sanders: HST/WFC3 Observations of an Off-nuclear Superbubble in Arp 220. Ap. J. 810, 149 (2015).

Longobardi, A., M. Arnaboldi, O. Gerhard and J.C. Mihos: The build-up of the cD halo of M 87 evidence for accretion in the last Gyr. Astron. Astrophys. 579, L3 (2015).

Longobardi, A., M. Arnaboldi, O. Gerhard and R. Hanuschik: The outer regions of the giant Virgo galaxy M 87 Kinematic separation of stellar halo and intracluster light. Astron. Astrophys. 579, A135 (2015).

Lyskova, N., J. Thomas, E. Churazov, S. Tremaine and T. Naab: Comparison of simple mass estimators for slowly rotating elliptical galaxies. Mon. Not. R. Astron. Soc. 450, 3442-3457 (2015).

Magnelli, B., R.J. Ivison, D. Lutz, ..., S. Berta, ..., S. Wuyts: The far-infrared/radio correlation and radio spectral index of galaxies in the SFR-M_* – plane up to z$\sim$2. Astron. Astrophys. 573, A45 (2015).

Maitra, C., J. Ballet, M.D. Filipović, F. Haberl, A. Tiengo, K. Grieve and Q. Roper: IKT 16: the first X-ray confirmed composite SNR in the SMC. Astron. Astrophys. 584, A41 (2015).

Mancini, C., A. Renzini, E. Daddi, G. Rodighiero, S. Berta, N. Grogin, D. Kocevski and A. Koekemoer: Star formation and quenching among the most massive galaxies at z $\sim$ 1.7. Mon. Not. R. Astron. Soc. 450, 763-786 (2015).

Manera, M., L. Samushia, R. Tojeiro, ..., F. Montesano: The clustering of galaxies in the SDSS-III Baryon Oscillation Spectroscopic Survey: mock galaxy catalogues for the low-redshift sample. Mon. Not. R. Astron. Soc. 447, 437-445 (2015).

Marlowe, H., R. L. McEntaffer, R. Allured, ..., V. Burwitz, B. Menz, G. Hartner, et al.: Performance testing of an off-plane reflection grating and silicon pore optic spectrograph at PANTER. Journal of Astronomical Telescopes, Instruments, and Systems 1(4), 045004, (2015).

Martin-Drumel, M.A., C.P. Endres, O. Zingsheim, et al.: The SOLEIL view on sulfur rich oxides: The S_2O bending mode v_2 at 380 cm^{-1} and its analysis using an Automated Spectral Assignment Procedure (ASAP). Journal of Molecular Spectroscopy 315, 72-79 (2015).

Mashian, N., E. Sturm, A. Sternberg, A. Janssen, S. Hailey-Dunsheath, J. Fischer, A. Contursi, E. González-Alfonso, J. Graciá-Carpio, A. Poglitsch, S. Veilleux, R. Davies, R. Genzel, D. Lutz, L. Tacconi, A. Verma, A. Weiß, E. Polisensky and T. Nikola: High-J CO Sleds in Nearby Infrared Bright Galaxies Observed By Herschel/PACS. Ap. J. 802, 81 (2015).

Masters, D., P. Capak, D. Stern, O. Ilbert, M. Salvato, et al.: Mapping the Galaxy Color-Redshift Relation: Optimal Photometric Redshift Calibration Strategies for Cosmology Surveys. Ap. J. 813, 53 (2015).

Mehdipour, M., J.S. Kaastra, G.A. Kriss, ..., B. De Marco, ..., G. Ponti, et al.: Anatomy of the AGN in NGC 5548. I. A global model for the broadband spectral energy distribution. Astron. Astrophys. 575, A22 (2015).

Mei, S., C. Scarlata, L. Pentericci, ..., A. Galametz, et al.: Star-forming Blue ETGs in Two Newly Discovered Galaxy Overdensities in the HUDF at z=1.84 and 1.9: Unveiling the Progenitors of Passive ETGs in Cluster Cores. Ap. J. 804, 117 (2015).

Melchior, P., E. Suchyta, E. Huff, ..., J. Mohr, ..., J. Weller, et al.: Mass and galaxy distributions of four massive galaxy clusters from Dark Energy Survey Science Verification data. Mon. Not. R. Astron. Soc. 449, 2219-2238 (2015).

Meléndez, M., S. Veilleux, C. Martin, C. Engelbracht, J. Bland-Hawthorn, G. Cecil, F. Heitsch, A. McCormick, T. Müller, D. Rupke and S.H. Teng: Exploring the Dust Content of Galactic Winds with Herschel. I. NGC 4631. Ap. J. 804, 46 (2015).

Mendel, J.T., R.P. Saglia, R. Bender, A. Beifiori, J. Chan, M. Fossati, D.J. Wilman, K. Bandara, G.B. Brammer, N.M. Förster Schreiber, A. Galametz, S. Kulkarni, I.G. Momcheva, E.J. Nelson, P.G. van Dokkum, K.E. Whitaker and S. Wuyts: First Results from the VIRIAL Survey: The Stellar Content of UVJ-selected Quiescent Galaxies at $1.5 < z < 2$ from KMOS. Ap. J. Lett. 804, L4 (2015).

Menz, B., C. Braig, H. Bräuninger, V. Burwitz, G. Hartner and P. Predehl: Large area x-ray collimator - the zone plate approach. Appl. Opt. 54, 7851-7858 (2015).

Merloni, A., T. Dwelly, M. Salvato, A. Georgakakis, J. Greiner, M. Krumpe, K. Nandra, G. Ponti and A. Rau: A tidal disruption flare in a massive galaxy? Implications for the fuelling mechanisms of nuclear black holes. Mon. Not. R. Astron. Soc. 452, 69-87 (2015).

Merten, J., M. Meneghetti, M. Postman, ..., D. Gruen, ..., A. Monna, S. Seitz, et al.: CLASH: The Concentration-Mass Relation of Galaxy Clusters. Ap. J. 806, 4 (2015).

Michalowski, M.J., G. Gentile, J. Hjorth, ..., S. Berta, ..., J. Greiner, ..., P. Schady, et al.: Massive stars formed in atomic hydrogen reservoirs: H I observations of gamma-ray burst host galaxies. Astron. Astrophys. 582, A78 (2015).

Miettinen, O., M. Novak, V. Smolčić, ..., M. Salvato and G. Zamorani: (Sub)millimetre interferometric imaging of a sample of COSMOS/AzTEC submillimetre galaxies. II. The spatial extent of the radio-emitting regions. Astron. Astrophys. 584, A32 (2015).

Miettinen, O., V. Smolčić, M. Novak, ..., M. Salvato, et al.: (Sub)millimetre interferometric imaging of a sample of COSMOS/AzTEC submillimetre galaxies. I. Multiwavelength identifications and redshift distribution. Astron. Astrophys. 577, A29 (2015).

Mignani, R.P., P. Moran, A. Shearer, V. Testa, A. Slowikowska, B. Rudak, K. Krzeszowki and G. Kanbach: VLT polarimetry observations of the middle-aged pulsar PSR B0656+14. Astron. Astrophys. 583, A105 (2015).

Mirkazemi, M., A. Finoguenov, M.J. Pereira, M. Tanaka, M. Lerchster, F. Brimioulle, E. Egami, K. Kettula, G. Erfanianfar, H.J. McCracken, Y. Mellier, J.P. Kneib, E. Rykoff, S. Seitz, T. Erben and J.E. Taylor: Brightest X-Ray Clusters of Galaxies in the CFHTLS Wide Fields: Catalog and Optical Mass Estimator. Ap. J. 799, 60 (2015).

Miyaji, T., G. Hasinger, M. Salvato, M. Brusa, N. Cappelluti, F. Civano, S. Puccetti, M. Elvis, H. Brunner, S. Fotopoulou, Y. Ueda, R.E. Griffiths, A.M. Koekemoer, M. Akiyama, A. Comastri, R. Gilli, G. Lanzuisi, A. Merloni and C. Vignali: Detailed Shape and Evolutionary Behavior of the X-Ray Luminosity Function of Active Galactic Nuclei. Ap. J. 804, 104 (2015).

Mobasher, B., T. Dahlen, H.C. Ferguson, ..., M. Salvato, ..., S. Wuyts, ..., A. Galametz, et al.: A Critical Assessment of Stellar Mass Measurement Methods. Ap. J. 808, 101 (2015).

Moeckel, N. and A. Burkert: The Formation of Filamentary Bundles in Turbulent Molecular Clouds. Ap. J. 807, 67 (2015).

Monna, A., S. Seitz, A. Zitrin, et al.: Constraining the galaxy mass content in the core of A383 using velocity dispersion measurements for individual cluster members. Mon. Not. R. Astron. Soc. 447, 1224-1241 (2015).

Morganson, E., P.J. Green, S.F. Anderson, ..., M. Salvato, et al.: The Time Domain Spectroscopic Survey: Variable Selection and Anticipated Results. Ap. J. 806, 244 (2015).

Mori, K., C.J. Hailey, R. Krivonos, J. Hong, G. Ponti, et al.: NuSTAR Hard X-Ray Survey of the Galactic Center Region I: Hard X-Ray Morphology and Spectroscopy of the Diffuse Emission. Ap. J. 814, 94 (2015).

Morris, A.M., D.D. Kocevski, J.R. Trump, ..., M. Salvato, ..., S. Wuyts: A WFC3 Grism Emission Line Redshift Catalog in the GOODS-South Field. Astron. J. 149, 178 (2015).

Mullaney, J.R., D.M. Alexander, J. Aird, ..., A. Del Moro, ..., D. Rosario, et al.: ALMA and Herschel reveal that X-ray-selected AGN and main-sequence galaxies have different star formation rate distributions. Mon. Not. R. Astron. Soc. 453, L83-L87 (2015).

Murillo, N.M., S. Bruderer, E.F. van Dishoeck, C. Walsh, D. Harsono, S.-P. Lai and C.M. Fuchs: A low-mass protostar's disk-envelope interface: disk-shadowing evidence from ALMA DCO^+ observations of VLA1623. Astron. Astrophys. 579, A114 (2015).

Nandra, K., E.S. Laird, J.A. Aird, M. Salvato, A. Georgakakis, et al.: AEGIS-X: Deep Chandra Imaging of the Central Groth Strip. Ap. J. Supp. Ser. 220, 10 (2015).

Neilsen, J., S. Markoff, M.A. Nowak, J. Dexter, G. Witzel, N. Barrière, Y. Li, F.K. Baganoff, N. Degenaar, P.C. Fragile, C. Gammie, A. Goldwurm, N. Grosso and D. Haggard: The X-Ray Flux Distribution of Sagittarius A* as Seen by Chandra. Ap. J. 799, 199 (2015).

Newman, A.B., S. Belli, R.S. Ellis: Discovery of a Strongly Lensed Massive Quiescent Galaxy at z = 2.636: Spatially Resolved Spectroscopy and Indications of Rotation. ApJ 813, L7 (2015).

Ngoumou, J., D. Hubber, J.E. Dale and A. Burkert: First Investigation of the Combined Impact of Ionizing Radiation and Momentum Winds from a Massive Star on a Self-gravitating Core. Ap. J. 798, 32 (2015).

Nicuesa Guelbenzu, A., S. Klose, E. Palazzi, J. Greiner, M.J. Michalowski, D.A. Kann, L.K. Hunt, D. Malesani, A. Rossi, S. Savaglio, S. Schulze, D. Xu, P.M.J. Afonso, J. Elliott, P. Ferrero, R. Filgas, D.H. Hartmann, T. Krühler, F. Knust, N. Masetti, F.

Olivares E., A. Rau, P. Schady, S. Schmidl, M. Tanga, A.C. Updike and K. Varela: Identifying the host galaxy of the short GRB 100628A. Astron. Astrophys. 583, A88 (2015).

Nisini, B., G. Santangelo, T. Giannini, S. Antoniucci, S. Cabrit, C. Codella, C.J. Davis, J. Eislöffel, L. Kristensen, G. Herczeg, D. Neufeld and E.F. van Dishoeck: [O I] 63 μm Jets in Class 0 Sources Detected By Herschel. Ap. J. 801, 121 (2015).

Nosenko, V., S.K. Zhdanov, H.M. Thomas, J. Carmona-Reyes and T.W. Hyde: Spontaneous formation and spin of particle pairs in a single-layer complex plasma crystal. Europhys. Lett. 112, 45003-p1-45003-p6 (2015).

Le Fèvre, O., L.A.M. Tasca, P. Cassata„ ..., M. Salvato, et al.: The VIMOS Ultra-Deep Survey (VUDS): fast increase in the fraction of strong Lyman-α emitters from z = 2 to z = 6. Astron. Astrophys. 573, A24 (2015).

Obreschkow, D., K. Glazebrook, R. Bassett, D.B. Fisher, R.G. Abraham, E. Wisnioski, A.W. Green, P.J. McGregor, I. Damjanov, A. Popping and I. Jørgensen: Low Angular Momentum in Clumpy, Turbulent Disk Galaxies. Ap. J. 815, 97 (2015).

Öberg, K.I., K. Furuya, R. Loomis, Y. Aikawa, S.M. Andrews, C. Qi, E.F. van Dishoeck and D.J. Wilner: Double DCO^+ Rings Reveal CO Ice Desorption in the Outer Disk Around IM Lup. Ap. J. 810, 112 (2015).

Ogiya, G. and A. Burkert: Re-examining the too-big-to-fail problem for dark matter haloes with central density cores. Mon. Not. R. Astron. Soc. 446, 2363-2369 (2015).

Oh, S.-H., D.A. Hunter, E. Brinks, B.G. Elmegreen, A. Schruba, F. Walter, M.P. Rupen, L.M. Young, C.E. Simpson, M.C. Johnson, K.A. Herrmann, D. Ficut-Vicas, P. Cigan, V. Heesen, T. Ashley and H.-X. Zhang: High-resolution Mass Models of Dwarf Galaxies from LITTLE THINGS. Astron. J. 149, 180 (2015).

Olamaie, M., F. Feroz, K.J.B. Grainge, M.P. Hobson, J.S. Sanders and R.D.E. Saunders: BAYES-X: a Bayesian inference tool for the analysis of X-ray observations of galaxy clusters. Mon. Not. R. Astron. Soc. 446, 1799-1819 (2015).

Olivares E., F., J. Greiner, P. Schady, S. Klose, T. Krühler, A. Rau, S. Savaglio, D.A. Kann, G. Pignata, J. Elliott, A. Rossi, M. Nardini, P.M.J. Afonso, R. Filgas, A. Nicuesa Guelbenzu, S. Schmidl and V. Sudilovsky: Multiwavelength analysis of three supernovae associated with gamma-ray bursts observed by GROND. Astron. Astrophys. 577, A44 (2015).

Paizis, A., M.A. Nowak, J. Rodriguez, A. Segreto, S. Chaty, A. Rau, J. Chenevez, M. Del Santo, J. Greiner and S. Schmidl: Investigating the Nature of IGR J17454-2919 Using X-Ray and Near-infrared Observations. Ap. J. 808, 34 (2015).

Panagoulia, E.K., J.S. Sanders and A.C. Fabian: A volume-limited sample of X-ray galaxy groups and clusters - III. Central abundance drops. Mon. Not. R. Astron. Soc. 447, 417-436 (2015).

Pasham, D.R., S.B. Cenko, A.J. Levan, G.C. Bower, A. Horesh, G.C. Brown, S. Dolan, K. Wiersema, A.V. Filippenko, A.S. Fruchter, J. Greiner, P.T. O'Brien, K.L. Page, A. Rau and N.R. Tanvir: A Multiwavelength Study of the Relativistic Tidal Disruption Candidate Swift J2058.4+0516 at Late Times. Ap. J. 805, 68 (2015).

Pastorello, A., L. Wyrzykowski, S. Valenti, ..., J. Greiner, ..., A. Rau, et al.: Massive stars exploding in a He-rich circumstellar medium - V. Observations of the slow-evolving SN Ibn OGLE-2012-SN-006. Mon. Not. R. Astron. Soc. 449, 1941-1953 (2015).

Paz, D.J. and A.G. Sánchez: Improving the precision matrix for precision cosmology. Mon. Not. R. Astron. Soc. 454, 4326-4334 (2015).

Perez-Villegas, A., B. Pichardo and E. Moreno: Stellar Orbital Studies in Normal Spiral Galaxies. II. Restrictions on Structural and Dynamical Parameters on Spiral Arms.

Ap. J. 809, 170, (2015).

Perez-Villegas, A., G. C. Gomez and B. Pichardo: The galactic branches as a possible evidence for transient spiral arms. Mon. Not. R. Astron. Soc. 451, 2922-2932 (2015).

Perna, M., M. Brusa, G. Cresci, ..., M. Salvato, et al.: Galaxy-wide outflows in z $\sim$ 1.5 luminous obscured quasars revealed through near-IR slit-resolved spectroscopy. Astron. Astrophys. 574, A82 (2015).

Perna, M., M. Brusa, M. Salvato, G. Cresci, G. Lanzuisi, S. Berta, I. Delvecchio, F. Fiore, D. Lutz, E. Le Floc'h, V. Mainieri and L. Riguccini: SINFONI spectra of heavily obscured AGNs in COSMOS: Evidence of outflows in a MIR/O target at z $\sim$ 2.5. Astron. Astrophys. 583, A72 (2015).

Perrott, Y.C., M. Olamaie, C. Rumsey, ..., H. Böhringer, et al.: Comparison of Sunyaev-Zel'dovich measurements from Planck and from the Arcminute Microkelvin Imager for 99 galaxy clusters. Astron. Astrophys. 580, A95 (2015).

Petroff, E., M. Bailes, E.D. Barr, ..., J. Greiner, et al.: A real-time fast radio burst: polarization detection and multiwavelength follow-up. Mon. Not. R. Astron. Soc. 447, 246-255 (2015).

Pfuhl, O., S. Gillessen, F. Eisenhauer, R. Genzel, P.M. Plewa, T. Ott, A. Ballone, M. Schartmann, A. Burkert, T.K. Fritz, R. Sari, E. Steinberg and A.-M. Madigan: The Galactic Center Cloud G2 and its Gas Streamer. Ap. J. 798, 111 (2015).

Pineda, J.E., S.S.R. Offner, R.J. Parker, H.G. Arce, A.A. Goodman, P. Caselli, G.A. Fuller, T.L. Bourke and S.A. Corder: The formation of a quadruple star system with wide separation. Nature 518, 213-215 (2015).

Pinilla, P., M. de Juan Ovelar, S. Ataiee, M. Benisty, T. Birnstiel, E.F. van Dishoeck and M. Min Gas and dust structures in protoplanetary disks hosting multiple planets. Astron. Astrophys. 573, A9 (2015).

Pinilla, P., N. van der Marel, L.M. Pérez, E.F. van Dishoeck, et al.: Testing particle trapping in transition disks with ALMA. Astron. Astrophys. 584, A16 (2015).

Pinto, C., J.S. Sanders, N. Werner, J. de Plaa, A.C. Fabian, Y.-Y. Zhang, J.S. Kaastra, A. Finoguenov and J. Ahoranta: Chemical Enrichment RGS cluster Sample (CHEERS): Constraints on turbulence. Astron. Astrophys. 575, A38 (2015).

Piranomonte, S., J. Japelj, S.D. Vergani, ..., T. Krühler, et al.: GRB host galaxies with VLT/X-Shooter: properties at $0.8 < z < 1.3$. Mon. Not. R. Astro. Soc. 452(4), 3293-3303 (2015).

Planck Collaboration, P.A.R. Ade, N. Aghanim, ..., A.W. Strong, et al.: Planck intermediate results. XXVIII. Interstellar gas and dust in the Chamaeleon clouds as seen by Fermi LAT and Planck. Astron. Astrophys. 582, A31 (2015).

Planck Collaboration, P.A.R. Ade, N. Aghanim, C. Armitage-Caplan, ..., H. Böhringer, ..., G. Chon, et al.: Planck 2013 results. XXXII. The updated Planck catalogue of Sunyaev-Zeldovich sources. Astron. Astrophys. 581, A14 (2015).

Planck Collaboration, P.A.R. Ade, N. Aghanim, M. Arnaud, ..., H. Böhringer, ..., G. Chon, et al.: Planck intermediate results. XXVI. Optical identification and redshifts of Planck clusters with the RTT150 telescope. Astron. Astrophys. 582, A29 (2015).

Planck Collaboration, P.A.R. Ade, N. Aghanim, M.I.R. Alves, ..., A.W. Strong, et al.: Planck intermediate results. XXIII. Galactic plane emission components derived from Planck with ancillary data. Astron. Astrophys. 580, A13 (2015).

Plant, D.S., R.P. Fender, G. Ponti, T. Muñoz-Darias and M. Coriat: The truncated and evolving inner accretion disc of the black hole GX 339-4. Astron. Astrophys. 573, A120 (2015).

Plewa, P.M., S. Gillessen, F. Eisenhauer, T. Ott, O. Pfuhl, E. George, J. Dexter, M. Habibi, R. Genzel, M.J. Reid and K.M. Menten: Pinpointing the near-infrared location of Sgr A* by correcting optical distortion in the NACO imager. Mon. Not. R. Astron. Soc. 453, 3234-3244 (2015).

Pon, A., P. Caselli, D. Johnstone, M. Kaufman, M.J. Butler, F. Fontani, I. Jiménez-Serra and J.C. Tan: Mid-J CO shock tracing observations of infrared dark clouds. I. Astron. Astrophys. 577, A75 (2015).

Ponti, G., B. De Marco, M.R. Morris, A. Merloni, T. Muñoz-Darias, M. Clavel, D. Haggard, S. Zhang, K. Nandra, S. Gillessen, K. Mori, J. Neilsen, N. Rea, N. Degenaar, R. Terrier and A. Goldwurm: Fifteen years of XMM-Newton and Chandra monitoring of Sgr A*: evidence for a recent increase in the bright flaring rate. Mon. Not. R. Astron. Soc. 454, 1525-1544 (2015).

Ponti, G., M.R. Morris, R. Terrier, F. Haberl, R. Sturm, M. Clavel, S. Soldi, A. Goldwurm, P. Predehl, K. Nandra, G. Bélanger, R.S. Warwick and V. Tatischeff: The XMM-Newton view of the central degrees of the Milky Way. Mon. Not. R. Astron. Soc. 453, 172-213 (2015).

Ponti, G., S. Bianchi, T. Muñoz-Darias, B. De Marco, T. Dwelly, R.P. Fender, K. Nandra, et al.: On the Fe K absorption - accretion state connection in the Galactic Centre neutron star X-ray binary AX J1745.6-2901. Mon. Not. R. Astron. Soc. 446, 1536-1550 (2015).

Popesso, P., A. Biviano, A. Finoguenov, D. Wilman, M. Salvato, B. Magnelli, C. Gruppioni, F. Pozzi, G. Rodighiero, F. Ziparo, S. Berta, D. Elbaz, M. Dickinson, D. Lutz, B. Altieri, H. Aussel, A. Cimatti, D. Fadda, O. Ilbert, E. Le Floch, R. Nordon, A. Poglitsch and C.K. Xu: The evolution of galaxy star formation activity in massive haloes. Astron. Astrophys. 574, A105 (2015).

Popesso, P., A. Biviano, A. Finoguenov, D. Wilman, M. Salvato, B. Magnelli, C. Gruppioni, F. Pozzi, G. Rodighiero, F. Ziparo, S. Berta, D. Elbaz, M. Dickinson, D. Lutz, B. Altieri, H. Aussel, A. Cimatti, D. Fadda, O. Ilbert, E. Le Floch, R. Nordon, A. Poglitsch, S. Genel and C.K. Xu: The role of massive halos in the star formation history of the Universe. Astron. Astrophys. 579, A132 (2015).

Popping, G., K.I. Caputi, S.C. Trager, R.S. Somerville, A. Dekel, S.A. Kassin, D.D. Kocevski, A.M. Koekemoer, S.M. Faber, H.C. Ferguson, A. Galametz, N.A. Grogin, Y. Guo, Y. Lu, A.v.d. Wel and B.J. Weiner: The inferred evolution of the cold gas properties of CANDELS galaxies at $0.5 < z < 3.0$. Mon. Not. R. Astron. Soc. 454, 2258-2276 (2015).

Portail, M., C. Wegg and O. Gerhard: Peanuts, brezels and bananas: food for thought on the orbital structure of the Galactic bulge. Mon. Not. R. Astron. Soc. 450, L66-L70 (2015).

Portail, M., C. Wegg, O. Gerhard and I. Martinez-Valpuesta: Made-to-measure models of the Galactic box/peanut bulge: stellar and total mass in the bulge region. Mon. Not. R. Astron. Soc. 448, 713-731 (2015).

Pál, A., C. Kiss, J. Horner, R. Szakáts, E. Vilenius, T.G. Müller, et al.: Physical properties of the extreme Centaur and super-comet candidate 2013 AZ60. Astron. Astrophys. 583, A93 (2015).

Raddi, R., B.T. Gänsicke, D. Koester, J. Farihi, J.J. Hermes, S. Scaringi, E. Breedt and J. Girven: Likely detection of water-rich asteroid debris in a metal-polluted white dwarf. Mon. Not. R. Astron. Soc. 450, 2083-2093 (2015).

Ranalli, P., I. Georgantopoulos, A. Corral, L. Koutoulidis, M. Rovilos, F.J. Carrera, A. Akylas, A. Del Moro, A. Georgakakis, R. Gilli and C. Vignali: The XMM-Newton survey in the H-ATLAS field. Astron. Astrophys. 577, A121 (2015).

Rau, M.M., S. Seitz, F. Brimioulle, E. Frank, O. Friedrich, D. Gruen and B. Hoyle: Accurate photometric redshift probability density estimation - method comparison and application. Mon. Not. R. Astron. Soc. 452, 3710-3725 (2015).

Riaz, B. and E. T. Whelan: HH 1158: The Lowest Luminosity Externally Irradiated Herbig-Haro Jet. Ap. J. Lett. 815, 31-37 (2015).

Ricarte, A. and J. Dexter: The Event Horizon Telescope: exploring strong gravity and accretion physics. Mon. Not. R. Astron. Soc. 446, 1973-1987 (2015).

Rieke, G.H., G.S. Wright, T. Böker, ..., E.F. van Dishoeck and C. Waelkens: The Mid-Infrared Instrument for the James Webb Space Telescope, I: Introduction. Publ. Astron. Soc. Pac. 127, 584-594 (2015).

Rigby, E.E., J. Argyle, P.N. Best, D. Rosario and H.J.A. Röttgering: Cosmic downsizing of powerful radio galaxies to low radio luminosities. Astron. Astrophys. 581, A96 (2015).

Rigby, J.R., M.B. Bayliss, M.D. Gladders, K. Sharon, E. Wuyts, H. Dahle, T. Johnson and M. Peña-Guerrero: C III] Emission in Star-forming Galaxies Near and Far. Ap. J. Lett. 814, L6 (2015).

Riguccini, L., E. Le Floc'h, J.R. Mullaney, K. Menéndez-Delmestre, H. Aussel, S. Berta, J. Calanog, P. Capak, A. Cooray, O. Ilbert, J. Kartaltepe, A. Koekemoer, D. Lutz, B. Magnelli, H. McCracken, S. Oliver, I. Roseboom, M. Salvato, D. Sanders, N. Scoville, Y. Taniguchi and E. Treister: The composite nature of Dust-Obscured Galaxies (DOGs) at z $\sim$ 2-3 in the COSMOS field - I. A far-infrared view. Mon. Not. R. Astron. Soc. 452, 470-485 (2015).

Roccatagliata, V., J.E. Dale, T. Ratzka, L. Testi, A. Burkert, C. Koepferl, A. Sicilia-Aguilar, C. Eiroa and B. Gaczkowski: A network of filaments detected by Herschel in the Serpens core. A laboratory to test simulations of low-mass star formation. Astron. Astrophys. 584, A119 (2015).

Rodighiero, G., M. Brusa, E. Daddi, M. Negrello, J.R. Mullaney, I. Delvecchio, D. Lutz, A. Renzini, A. Franceschini, I. Baronchelli, F. Pozzi, C. Gruppioni, V. Strazzullo, A. Cimatti and J. Silverman: Relationship between Star Formation Rate and Black Hole Accretion At Z = 2: the Different Contributions in Quiescent, Normal, and Starburst Galaxies. Ap. J. Lett. 800, L10 (2015).

Rodriguez, J., M. Cadolle Bel, J. Alfonso-Garzón, T. Siegert, X.-L. Zhang, V. Grinberg, V. Savchenko, J.A. Tomsick, J. Chenevez, M. Clavel, S. Corbel, R. Diehl, A. Domingo, C. Gouiffès, J. Greiner, M.G.H. Krause, et al.: Correlated optical, X-ray, and γ-ray flaring activity seen with INTEGRAL during the 2015 outburst of V404 Cygni. Astron. Astrophys. 581, L9 (2015).

Rosario, D.J., D.H. McIntosh, A. van der Wel, J. Kartaltepe, P. Lang, P. Santini, S. Wuyts, D. Lutz, ..., S. Berta, ..., R. Genzel, ..., L.J. Tacconi, et al.: The host galaxies of X-ray selected active galactic nuclei to z = 2.5: Structure, star formation, and their relationships from CANDELS and Herschel/PACS. Astron. Astrophys. 573, A85 (2015).

Rubin, M., K. Altwegg, E.F. van Dishoeck and G. Schwehm: Molecular Oxygen in Oort Cloud Comet 1P/Halley. Ap. J. Lett. 815, L11 (2015).

Ryan, G., H. van Eerten, A. MacFadyen and B.-B. Zhang: Gamma-Ray Bursts are Observed Off-axis. Ap. J. 799, 3 (2015).

Rémy-Ruyer, A., S.C. Madden, F. Galliano, ..., V. Doublier-Pritchard, et al.: Linking dust emission to fundamental properties in galaxies: the low-metallicity picture. Astron. Astrophys. 582, A121 (2015).

Saliwanchik, B.R., T.E. Montroy, K.A. Aird, ..., J.J. Mohr, et al.: Measurement of Galaxy Cluster Integrated Comptonization and Mass Scaling Relations with the South Pole Telescope. Ap. J. 799, 137 (2015).

Salvetti, D., R.P. Mignani, A. De Luca, C. Delvaux, C. Pallanca, A. Belfiore, M. Marelli, A.A. Breeveld, J. Greiner, W. Becker and D. Pizzocaro: Multi-wavelength Observations of 3FGL J2039.6-5618: A Candidate Redback Millisecond Pulsar. Ap. J. 814, 88 (2015).

Santangelo, G., N.M. Murillo, B. Nisini, C. Codella, S. Bruderer, S.-P. Lai and E.F. van Dishoeck: Disentangling the jet emission from protostellar systems. The ALMA view of VLA1623. Astron. Astrophys. 581, A91 (2015).

Santini, P., H.C. Ferguson, A. Fontana, ..., M. Salvato, T. Wiklind, S. Wuyts, O. Almaini, M.C. Cooper, A. Galametz, et al.: Stellar Masses from the CANDELS Survey: The GOODS-South and UDS Fields. Ap. J. 801, 97 (2015).

Santos, J.S., B. Altieri, I. Valtchanov, A. Nastasi, H. Böhringer, et al.: The reversal of the SF-density relation in a massive, X-ray-selected galaxy cluster at z = 1.58: results from Herschel. Mon. Not. R. Astron. Soc. 447, L65-L69 (2015).

Saro, A., S. Bocquet, E. Rozo, B.A. Benson, J. Mohr, ..., J. Weller, ..., D. Gruen, et al: Constraints on the richness-mass relation and the optical-SZE positional offset distribution for SZE-selected clusters. Mon. Not. R. Astron. Soc. 454, 2305-2319 (2015).

Scaringi, S., T.J. Maccarone, R.I. Hynes, E. Körding, G. Ponti, C. Knigge, C.T. Britt and H. van Winckel: Sco X-1 revisited with Kepler, MAXI and HERMES: outflows, time-lags and echoes unveiled. Mon. Not. R. Astron. Soc. 451, 3857-3867 (2015).

Schady, P., T. Krühler, J. Greiner, J.F. Graham, D.A. Kann, J. Bolmer, C. Delvaux, J. Elliott, S. Klose, F. Knust, A. Nicuesa Guelbenzu, A. Rau, A. Rossi, S. Savaglio, S. Schmidl, T. Schweyer, V. Sudilovsky, M. Tanga, N.R. Tanvir, K. Varela and P. Wiseman: Super-solar metallicity at the position of the ultra-long GRB 130925A. Astron. Astrophys. 579, A126 (2015).

Schartmann, M., A. Ballone, A. Burkert, S. Gillessen, R. Genzel, O. Pfuhl, F. Eisenhauer, P.M. Plewa, T. Ott, E.M. George and M. Habibi: 3D Adaptive Mesh Refinement Simulations of the Gas Cloud G2 Born within the Disks of Young Stars in the Galactic Center. Ap. J. 811, 155 (2015).

Schulze, A., A. Bongiorno, I. Gavignaud, M. Schramm, J. Silverman, A. Merloni, et al.: The cosmic growth of the active black hole population at $1 < z < 2$ in zCOSMOS, VVDS and SDSS. Mon. Not. R. Astron. Soc. 447, 2085-2111 (2015).

Scudder, J. M., S.L. Ellison, E. Momjian, J.L. Rosenberg, P. Torrey, D.R. Patton, D. Fertig and J.T. Mendel: Galaxy pairs in the Sloan Digital Sky Survey – X. Does gas content alter star formation rate enhancement in galaxy interactions? Mon. Not. R. Astro. Soc. 449(4), 3719-3740 (2015).

Scoville, N., K. Sheth, F. Walter, ..., R. Genzel, L. Hernquist, L. Tacconi, et al.: ALMA Imaging of HCN, CS, and Dust in Arp 220 and NGC 6240. Ap. J. 800, 70 (2015).

Seitenzahl, I.R., A. Summa, F. Krauß, S.A. Sim, R. Diehl, et al.: 5.9-keV Mn K-shell X-ray luminosity from the decay of ^{55}Fe in Type Ia supernova models. Mon. Not. R. Astron. Soc. 447, 1484-1490 (2015).

Shafter, A.W., M. Henze, T.A. Rector, F. Schweizer, K. Hornoch, M. Orio, W. Pietsch, M.J. Darnley, S.C. Williams, M.F. Bode and J. Bryan: Recurrent Novae in M31. Ap. J. Supp. Ser. 216, 34 (2015).

Sharon, C.E., A.J. Baker, A.I. Harris, L.J. Tacconi, D. Lutz and S.N. Longmore: Excitation Conditions in the Multi-component Submillimeter Galaxy SMM J00266+1708. Ap. J. 798, 133 (2015).

Shen, Y., J.E. Greene, L.C. Ho, ..., A. Merloni, et al.: The Sloan Digital Sky Survey Reverberation Mapping Project: No Evidence for Evolution in the $M_\bullet$ - σ_* Relation to $z \sim 1$. Ap. J. 805, 96 (2015).

Shimakawa, R., T. Kodama, C.C. Steidel, K.-i. Tadaki, I. Tanaka, A.L. Strom, M. Hayashi, Y. Koyama, T.L. Suzuki and M. Yamamoto: Correlation between star formation activity and electron density of ionized gas at z = 2.5. Mon. Not. R. Astron. Soc. 451, 1284-1289 (2015).

Shimakawa, R., T. Kodama, K.-i. Tadaki, M. Hayashi, Y. Koyama and I. Tanaka: An early phase of environmental effects on galaxy properties unveiled by near-infrared spectroscopy of protocluster galaxies at z > 2. Mon. Not. R. Astron. Soc. 448, 666-680 (2015).

Shimizu, T.T., R.F. Mushotzky, M. Meléndez, M. Koss and D.J. Rosario: Decreased specific star formation rates in AGN host galaxies. Mon. Not. R. Astron. Soc. 452, 1841-1860 (2015).

Siegert, T., R. Diehl, M.G.H. Krause and J. Greiner: Revisiting INTEGRAL/SPI observations of ^{44}Ti from Cassiopeia A. Astron. Astrophys. 579, A124 (2015).

Silverman, J.D., E. Daddi, G. Rodighiero, ..., D. Lutz, et al.: A Higher Efficiency of Converting Gas to Stars Pushes Galaxies at z $\sim$ 1.6 Well Above the Star-forming Main Sequence. Ap. J. Lett. 812, L23 (2015).

Simm, T., R. Saglia, M. Salvato, R. Bender, et al.: Pan-STARRS1 variability of XMM-COSMOS AGN. I. Impact on photometric redshifts. Astron. Astrophys. 584, A106 (2015).

Singer, L.P., M.M. Kasliwal, S.B. Cenko, ..., A. Rau, et al.: The Needle in the 100 deg^2 Haystack: Uncovering Afterglows of Fermi GRBs with the Palomar Transient Factory. Ap. J. 806, 52 (2015).

Sipilä, O., J. Harju and M. Juvela: On the stability of nonisothermal Bonnor-Ebert spheres. II. The effect of gas temperature on the stability. Astron. Astrophys. 582, A48 (2015).

Sipilä, O., J. Harju, P. Caselli and S. Schlemmer: Spin-state chemistry of deuterated ammonia. Astron. Astrophys. 581, A122 (2015).

Sipilä, O., P. Caselli and J. Harju: Benchmarking spin-state chemistry in starless core models. Astron. Astrophys. 578, A55 (2015).

Sitnova, T., G. Zhao, L. Mashonkina, Y. Chen, F. Liu, Y. Pakhomov, K. Tan, M. Bolte, S. Alexeeva, F. Grupp, J.-R. Shi and H.-W. Zhang: Systematic Non-LTE Study of the -2.6 < [Fe/H] < 0.2 F and G dwarfs in the Solar Neighborhood. I. Stellar Atmosphere Parameters. Ap. J. 808, 148 (2015).

Smolčić, V., A. Karim, O. Miettinen, ..., M. Salvato, et al.: Physical properties of z > 4 submillimeter galaxies in the COSMOS field. Astron. Astrophys. 576, A127 (2015).

Soergel, B., T. Giannantonio, J. Weller and R.A. Battye: Constraining dark sector perturbations II: ISW and CMB lensing tomography. J. of Cosmology and Astroparticle Phys. 2, 037 (2015).

Song, L., N. Balakrishnan, K.M. Walker, P.C. Stancil, W.F. Thi, I. Kamp, A. van der Avoird and G.C. Groenenboom: Quantum Calculation of Inelastic CO Collisions with H. III. Rate Coefficients for Ro-vibrational Transitions. Ap. J. 813, 96 (2015).

Steinacker, J., M. Andersen, W.-F. Thi, R. Paladini, M. Juvela, A. Bacmann, V.-M. Pelkonen, L. Pagani, C. Le Fèvre, T. Henning and A. Noriega-Crespo: Grain size limits derived from 3.6 μm and 4.5 μm coreshine. Astron. Astrophys. 582, A70 (2015).

Stolte, A., A. Stolte, B. Hußmann, M. R. Morris, A. M. Ghez, W. Brandner, J. R. Lu, W. I. Clarkson, M. Habibi, K. Matthews: The Orbital Motion of the Quintuplet Cluster – A Common Origin for the Arches and Quintuplet Clusters?. Ap. J. 789 (2015).

Stolte, A., B. Hußmann,C. Olczak, W. Brandner, M. Habibi, A. M. Ghez, M. R. Morris, J. R. Lu, W. I. Clarkson, J. Anderson, J.: Circumstellar discs in Galactic centre clusters: Disc-bearing B-type stars in the Quintuplet and Arches clusters. Astron. Astrophys.

578 (2015).

Sun, M., J. R. Trump, W. N. Brandt, B. Luo, D. M. Alexander, K. Janhke, D. J. Rosario, S.. X. Wang and Y. Q. Xue: Evolution in the Black Hole – Galaxy Scaling Relations and the Duty Cycle of Nuclear Activity in Star-forming Galaxies. Ap. J. 802, 14, (2015).

Suzuki, T.L., T. Kodama, K.-i. Tadaki, M. Hayashi, Y. Koyama, I. Tanaka, Y. Minowa, R. Shimakawa and M. Yamamoto: Galaxy Formation at z $>$ 3 Revealed by Narrowband-selected [O III] Emission Line Galaxies. Ap. J. 806, 208 (2015).

Tacchella, S., C.M. Carollo, A. Renzini, N.M. Förster Schreiber, P. Lang, S. Wuyts, G. Cresci, A. Dekel, R. Genzel, S.J. Lilly, C. Mancini, S. Newman, M. Onodera, A. Shapley, L. Tacconi, J. Woo and G. Zamorani: Evidence for mature bulges and an inside-out quenching phase 3 billion years after the Big Bang. Science 348, 314-317 (2015).

Tacchella, S., P. Lang, C.M. Carollo, N.M. Förster Schreiber, A. Renzini, A.E. Shapley, S. Wuyts, G. Cresci, R. Genzel, S.J. Lilly, C. Mancini, S.F. Newman, L.J. Tacconi, G. Zamorani, R.I. Davies, J. Kurk and L. Pozzetti: SINS/zC-SINF Survey of z $\sim$ 2 Galaxy Kinematics: Rest-frame Morphology, Structure, and Colors from Near-infrared Hubble Space Telescope Imaging. Ap. J. 802, 101 (2015).

Tadaki, K.-i., K. Kohno, T. Kodama, ..., S. Berta, ..., D. Lutz, ..., S. Wuyts, et al.: SXDF-ALMA 1.5 arcmin^2 Deep Survey: A Compact Dusty Star-forming Galaxy at z = 2.5. Ap. J. Lett. 811, L3 (2015).

Talia, M., A. Cimatti, L. Pozzetti, G. Rodighiero, C. Gruppioni, F. Pozzi, E. Daddi, C. Maraston, M. Mignoli and J. Kurk: The star formation rate cookbook at 1 $<$ z $<$ 3: Extinction-corrected relations for UV and [OII]λ3727 luminosities. Astron. Astrophys. 582, A80 (2015).

Taniguchi, Y., K. Masaru, K. Masakzu, ..., M. Salvato, et al.: The Subaru COSMOS 20: Subaru optical imaging of the HST COSMOS field with 20 filters*. Publ. Astron. Soc. Japan, 67, Issue 6, id. 10414 (2015).

Tasca, L.A.M., O. Le Fèvre, N.P. Hathi, ..., M. Salvato, et al.: The evolving star formation rate: M$_*$ relation and sSFR since z $\approx$ 5 from the VUDS spectroscopic survey. Astron. Astrophys. 581, A54 (2015).

Teklu, A.F., R.-S. Remus, K. Dolag, A.M. Beck, A. Burkert, A.S. Schmidt, F. Schulze and L.K. Steinborn: Connecting Angular Momentum and Galactic Dynamics: The Complex Interplay between Spin, Mass, and Morphology. Ap. J. 812, 29 (2015).

Thi, W.-F.: Chemical networks, Summer School - Protoplanetary Disks: Theory and Modeling Meet Observations. Ameland, The Netherlands.(Ed.) W.-F. Thi. EPJ Web of Conferences 102, 14-23 (2015).

Thi, W.-F.: Disk Chemistry, Summer School - Protoplanetary Disks: Theory and Modeling Meet Observations. Ameland, The Netherlands.(Eds.) I. Kamp, P. Woitke, J. D. Lee. EPJ Web of Conferences 102, 12-33 (2015).

Tibaldo, L., S.W. Digel, J.M. Casandjian, ..., A.W. Strong: Fermi-LAT Observations of High- and Intermediate-velocity Clouds: Tracing Cosmic Rays in the Halo of the Milky Way. Ap. J. 807, 161 (2015).

Tozzi, P., J.S. Santos, M.J. Jee, R. Fassbender, P. Rosati, A. Nastasi, W. Forman, B. Sartoris, S. Borgani, H. Boehringer, B. Altieri, G.W. Pratt, M. Nonino and C. Jones: Chandra Deep Observation of XDCP J0044.0-2033, a Massive Galaxy Cluster at z $>$ 1.5. Ap. J. 799, 93 (2015).

Traficante, A., G.A. Fuller, N. Peretto, J.E. Pineda and S. Molinari: The initial conditions of stellar protocluster formation – II. A catalogue of starless and protostellar clumps embedded in IRDCs in the Galactic longitude range 15deg $\leq$ l $\leq$ 55deg. Mon. Not.

R. Astro. Soc. 451(3), 3089-3106 (2015).

Trakhtenbrot, B., C.M. Urry, F. Civano, D.J. Rosario, M. Elvis, K. Schawinski, H. Suh, A. Bongiorno and B.D. Simmons: An over-massive black hole in a typical star-forming galaxy, 2 billion years after the Big Bang. Science 349, 168-171 (2015).

Tremblay, G.R., C.P. O'Dea, S.A. Baum, ..., J.S. Sanders, et al.: Far-ultraviolet morphology of star-forming filaments in cool core brightest cluster galaxies. Mon. Not. R. Astron. Soc. 451, 3768-3800 (2015).

Trump, J.R., M. Sun, G.R. Zeimann, C. Luck, J.S. Bridge, C.J. Grier, A. Hagen, S. Juneau, A. Montero-Dorta, D.J. Rosario, W.N. Brandt, R. Ciardullo and D.P. Schneider: The Biases of Optical Line-Ratio Selection for Active Galactic Nuclei and the Intrinsic Relationship between Black Hole Accretion and Galaxy Star Formation. Ap. J. 811, 26 (2015).

Tunnard, R., T.R. Greve, S. Garcia-Burillo, J. Graciá Carpio, A. Fuente, L. Tacconi, R. Neri and A. Usero: Modeling the Molecular Gas in NGC 6240. Ap. J. 815, 114 (2015).

Tunnard, R., T.R. Greve, S. Garcia-Burillo, J. Graciá Carpio, J. Fischer, A. Fuente, E. González-Alfonso, S. Hailey-Dunsheath, R. Neri, E. Sturm, A. Usero and P. Planesas: Chemically Distinct Nuclei and Outflowing Shocked Molecular Gas in Arp 220. Ap. J. 800, 25 (2015).

Ursini, F., R. Boissay, P.-O. Petrucci, ..., B. De Marco, ..., G. Ponti and K.C. Steenbrugge: Anatomy of the AGN in NGC 5548. III. The high-energy view with NuSTAR and INTEGRAL. Astron. Astrophys. 577, A38 (2015).

Usero, A., A.K. Leroy, F. Walter, A. Schruba, S. García-Burillo, K. Sandstrom, F. Bigiel, E. Brinks, C. Kramer, E. Rosolowsky, K.-F. Schuster and W.J.G. de Blok: Variations in the Star Formation Efficiency of the Dense Molecular Gas across the Disks of Star-forming Galaxies. Astron. J. 150, 115 (2015).

van der Marel, N., E.F. van Dishoeck, S. Bruderer, L. Pérez and A. Isella: Gas density drops inside dust cavities of transitional disks around young stars observed with ALMA. Astron. Astrophys. 579, A106 (2015).

Van de Sande, M., S. Scaringi and C. Knigge: The rms-flux relation in accreting white dwarfs: another nova-like variable and the first dwarf nova. Mon. Not. R. Astron. Soc. 448, 2430-2437 (2015).

van Dokkum, P. G., E. J. Nelson, M. Franx, P. Oesch, I. Momcheva, G. Brammer, N. M. Förster Schreiber, R. E. Skelton, K. E. Whitaker, A. van der Wel, R. Bezanson, M. Fumagalli, G. D. Ellingworth, M. Kriek, J. Leja and S. Wuyts: Forming compact massive galaxies. Ap. J. 813, 23, (2015).

Venemans, B.P., E. Bañados, R. Decarli, ..., J. Greiner, et al.: The Identification of Z-dropouts in Pan-STARRS1: Three Quasars at $6.5 < z < 6.7$. Ap. J. Lett. 801, L11 (2015).

Vergani, S.D., R. Salvaterra, J. Japelj, ..., T. Krühler, ..., J. Greiner, et al.: Are long gamma-ray bursts biased tracers of star formation? Clues from the host galaxies of the Swift/BAT6 complete sample of LGRBs . I. Stellar mass at $z < 1$. Astron. Astrophys. 581, A102 (2015).

Vignali, C., K. Iwasawa, A. Comastri, ..., M. Brusa, et al.: The XMM deep survey in the CDF-S. IX. An X-ray outflow in a luminous obscured quasar at $z \approx 1.6$. Astron. Astrophys. 583, A141 (2015).

Vikram, V., C. Chang, B. Jain, ..., D. Gruen, ..., and J. Weller: Wide-field lensing mass maps from Dark Energy Survey science verification data: Methodology and detailed analysis. Physical Review D 92, 022006 (2015).

Vokrouhlický, D., D. Farnocchia, D. Čapek, S.R. Chesley, P. Pravec, P. Scheirich and T.G.

Müller: The Yarkovsky effect for 99942 Apophis. Icarus 252, 277-283 (2015).

Walker, S.A., J.S. Sanders and A.C. Fabian: Constraining gas motions in the Centaurus cluster using X-ray surface brightness fluctuations and metal diffusion. Mon. Not. R. Astron. Soc. 453, 3699-3705 (2015).

Walker, S.A., P. Kosec, A.C. Fabian and J.S. Sanders: X-ray analysis of filaments in galaxy clusters. Mon. Not. R. Astron. Soc. 453, 2480-2489 (2015).

Walsh, C., H. Nomura and E. van Dishoeck: The molecular composition of the planet-forming regions of protoplanetary disks across the luminosity regime. Astron. Astrophys. 582, A88 (2015).

Wegg, C., O. Gerhard and M. Portail: The structure of the Milky Way's bar outside the bulge. Mon. Not. R. Astron. Soc. 450, 4050-4069 (2015).

Wells, M., J.-W. Pel, A. Glasse, ..., E.F. van Dishoeck, et al.: The Mid-Infrared Instrument for the James Webb Space Telescope, VI: The Medium Resolution Spectrometer. Publ. Astron. Soc. Pac. 127, 646-664 (2015).

Werner, M., R. Kissmann, A.W. Strong and O. Reimer: Spiral arms as cosmic ray source distributions. Astroparticle Phys. 64, 18-33 (2015).

Whewell, M., G. Branduardi-Raymont, J.S. Kaastra, ..., B. De Marco, ..., G. Ponti: Anatomy of the AGN in NGC 5548. V. A clear view of the X-ray narrow emission lines. Astron. Astrophys. 581, A79 (2015).

Whitaker, K. E., M. Franx, R. Bezanson, ..., S. Wuyts: Galaxy structure as a driver of the star formation sequence slope and scatter. Ap. J. 811, 12, (2015).

White, J.A., R.E.A. Canning, L.J. King, ..., J.S. Sanders: Dynamical analysis of galaxy cluster merger Abell 2146. Mon. Not. R. Astron. Soc. 453, 2718-2730 (2015).

Wiegert, T., J. Irwin, A. Miskolczi, ..., A.W. Strong, et al.: CHANG-ES. IV. Radio Continuum Emission of 35 Edge-on Galaxies Observed with the Karl G. Jansky Very Large Array in D Configuration - Data Release 1. Astron. J. 150, 81 (2015).

Williams, B.F., B. Wold, F. Haberl, K. Garofali, W.P. Blair, T.J. Gaetz, K.D. Kuntz, K.S. Long, T.G. Pannuti, W. Pietsch, P.P. Plucinsky and P.F. Winkler: A Deep XMM-Newton Survey of M33: Point-source Catalog, Source Detection, and Characterization of Overlapping Fields. Ap. J. Supp. Ser. 218, 9 (2015).

Wisnioski, E., N.M. Förster Schreiber, S. Wuyts, E. Wuyts, K. Bandara, D. Wilman, R. Genzel, R. Bender, R. Davies, M. Fossati, P. Lang, J.T. Mendel, A. Beifiori, G. Brammer, J. Chan, M. Fabricius, Y. Fudamoto, S. Kulkarni, J. Kurk, D. Lutz, E.J. Nelson, I. Momcheva, D. Rosario, R. Saglia, S. Seitz, L.J. Tacconi and P.G. van Dokkum: The KMOS^{3D} Survey: Design, First Results, and the Evolution of Galaxy Kinematics from $0.7 <= z <= 2.7$. Ap. J. 799, 209 (2015).

Wright, C.M., S.T. Maddison, D.J. Wilner, M.G. Burton, D. Lommen, E.F. van Dishoeck, P. Pinilla, T.L. Bourke, F. Menard and C. Walsh: Resolving structure of the disc around HD100546 at 7 mm with ATCA. Mon. Not. R. Astron. Soc. 453, 414-438 (2015).

Wright, G.S., D. Wright, G.B. Goodson, ..., E.F. van Dishoeck, et al.: The Mid-Infrared Instrument for the James Webb Space Telescope, II: Design and Build. Publ. Astron. Soc. Pac. 127, 595-611 (2015).

Wu, B., S. Van Loo, J.C. Tan and S. Bruderer: GMC Collisions as Triggers of Star Formation. I. Parameter Space Exploration with 2D Simulations. Ap. J. 811, 56 (2015).

Wu, X., L. Wang, J. Shi, G. Zhao and F. Grupp: Palladium and silver abundances in stars with [Fe/H] > -2.6. Astron. Astrophys. 579, A8 (2015).

Wu, X.S., S. Alexeeva, L. Mashonkina, L. Wang, G. Zhao and F. Grupp: Calibrating the α

parameter of convective efficiency using observed stellar properties. Astron. Astrophys. 577, A134 (2015).

Yildiz, U.A., L.E. Kristensen, E.F. van Dishoeck, et al.: APEX-CHAMP+ high-J CO observations of low-mass young stellar objects. IV. Mechanical and radiative feedback. Astron. Astrophys. 576, A109 (2015).

Yazdi, A., M. Heinen, A. Ivlev, H. Löwen and M. Sperl: Glass transition of charged particles in two-dimensional confinement. Physical Review E 91, 052301 (2015).

Yu, H.-F., H.J. van Eerten, J. Greiner, R. Sari, P. Narayana Bhat, A. von Kienlin, W.S. Paciesas and R.D. Preece: The sharpness of gamma-ray burst prompt emission spectra. Astron. Astrophys. 583, A129 (2015).

Yu, H.-F., J. Greiner, H. van Eerten, ..., R. Diehl, ..., A. von Kienlin, et al.: Synchrotron cooling in energetic gamma-ray bursts observed by the Fermi Gamma-Ray Burst Monitor. Astron. Astrophys. 573, A81 (2015).

Yurchenko, S.O., N.P. Kryuchkov and A.V. Ivlev: Pair correlations in classical crystals: The shortest-graph method. Journal of Chemical Physics 143, 034506 (2015).

Zezas, A., J.E. Trümper and N.D. Kylafis: Broad-band X-ray spectra of anomalous X-ray pulsars and soft γ-ray repeaters: pulsars in a weak-accretion regime?. Mon. Not. R. Astron. Soc. 454, 3366-3375 (2015).

Zhang, B.-B., H. van Eerten, D.N. Burrows, et al.: An Analysis of Chandra Deep Follow-up Gamma-Ray Bursts: Implications for Off-axis Jets. Ap. J. 806, 15 (2015).

Zhang, S. and G. Ponti: Hard X-ray Morphological and Spectral Studies of the Galactic Center Molecular Cloud Sgr B2: Constraining Past Sgr A* Flaring Activity. Ap. J. 815 (2015).

Zhdanov, S., M. Schwabe, C. Räth, H.M. Thomas and G.E. Morfill: Wave turbulence observed in an auto-oscillating complex (dusty) plasma. EPL (Europhysics Letters) 110, 35001 (2015).

Zhdanov, S.K., L. Couëdel, V. Nosenko, H.M. Thomas and G.E. Morfill: Spontaneous pairing and cooperative movements of micro-particles in a two dimensional plasma crystal. Phys. Plasmas 22, 053703 (2015).

Zhukhovitskii, D.I., V.E. Fortov, V.I. Molotkov, ..., A.V. Ivlev, M. Schwabe and G.E. Morfill: Measurement of the speed of sound by observation of the Mach cones in a complex plasma under microgravity conditions. Phys. Plasmas 22, 023701 (2015).

Zhuravleva, I., E. Churazov, P. Arévalo, ..., J.S. Sanders, et al.: Gas density fluctuations in the Perseus Cluster: clumping factor and velocity power spectrum. Mon. Not. R. Astro. Soc. 450(4), 4184-4197 (2015).

8.2 Instrumentelle Veröffentlichungen

Allured, R., B. D. Donovan, C. T. DeRoo, H. R. Marlowe, R. L. McEntaffer, J. H. Tutt, P. N. Cheimets, E. Hertz, R. K. Smith, V. Burwitz, G. Hartner, B. Menz: Optical and x-ray alignment approaches for off-plane reflection gratings. In Proc. of "Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII.", San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Paresci. Proceedings of SPIE Vol. 9603, SPIE, San Diego, California, USA, 960315 (2015).

Barbera, M., G. Branduardi-Raymont, A. Collura, A. Comastri, J. Eder, T. Kamisiński, U. Lo Cicero, N. Meidinger, et al.: The optical blocking filter for the ATHENA Wide Field Imager: ongoing activities towards the conceptual design. In Proc. of "UV, X-Ray, and Gamma-Ray Space Instrumentation for Astronomy XIX", San Diego, USA, 2015. (Ed.) O. H. Siegmund. SPIE Proceedings Vol. 9601, SPIE, Washington, 960109-1-960109-13 (2015).

Basso, S., M. Civitani, G. Pareschi, E. Buratti, J. Eder, P. Friedrich and M. Fürmetz: A design study of mirror modules and an assembly based on the slumped glass for an Athena-like optics. In Proc. of "Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII", San Diego, USA, 2015. (Eds.) S. O'Dell, G. Pareschi. Proceedings of SPIE Vol. 9603, 9603N (2015).

Bavdaz, M., E. Wille, B. Shortt, ..., V. Burwitz, et al.: The Athena optics. In Proc. of „Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII". San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Paresci. Proceedings of SPIE Vol. 9603, 96030J (2015).

Bayliss, M.B., J.R. Rigby, K. Sharon, M.D. Gladders and E. Wuyts: Probing Individual Star Forming Regions Within Strongly Lensed Galaxies at z $>$ 1. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 251-254 (2015).

Civitani, M., S. Basso, C. Brizzolari, M. Ghigo, G. Pareschi, B. Salmaso, D. Spiga, G. Vecchi, E. Breunig, V. Burwitz, G.D. Hartner, B. Menz: Slumped glass optics with interfacing ribs for high angular resolution x-ray astronomy: a progress report. In Proc. of "Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII", San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Pareschi. Proceedings of SPIE Vol. 9603, 96030P (2015).

Collon, M. J., G. Vacanti, R. Günther, ..., V. Burwitz, et al.: Silicon pore optics development for ATHENA. In Proc. of "Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII", San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Pareschi. Proceedings of SPIE Vol. 9603, 96030K (2015).

Diebold, S., C. Tenzer, E. Perinati, A. Santangelo, M. Freyberg, P. Friedrich and J. Jochum: Soft proton scattering efficiency measurements on x-ray mirror shells. Experimental Astronomy 39, 343-365 (2015).

Döhring, T., M. Stollenwerk, Q. Gong, L. Proserpio, A. Winter and P. Friedrich: The challenge of developing thin mirror shells for future X-ray telescopes. In Proc. of "SPIE 9628, Optical Systems Design 2015: Optical Fabrication, Testing, and Metrology V", Jena, Germany, 2015. (Eds.) A. Duparré, R. Geyl. Optical Systems Design 2015: Optical Fabrication, Testing, and Metrology V, Vol. 9628, 962809-1-962809-8 (2015).

Geis, N., F. Grupp, E. Prieto, and R. Bender: Preliminary results on the EUCLID NISP stray-light and ghost analysis. In H. A. MacEwen, & J. B. Breckinridge (Eds.), UV/-Optical/IR Space Telescopes and Instruments: Innovative Technologies and Concepts VII, pp. 1-14 (2015).

Götz, D., C. Adami, S. Basa, V. Beckmann, V. Burwitz, R. Chipaux, B. Cordier, P. Evans, O. Godet, R. Goosmann, N. Meidinger, A. Meuris, C. Motch, K. Nandra, O'Brien, P., J. Osborne, E. Perinati, A. Rau, R. Willingale, K. Mercier and Gonzalez: The Microchannel X-ray Telescope on Board the SVOM Satellite. In: Swift: 10 Years of Discovery - SWIFT 10, pp. 1-6 (2015).

Gruen, D., G. Bernstein, M. Jarvis, B. Rowe, V. Vikram, A. Plazas and S. Seitz: Characterization and correction of charge-induced pixel shifts in DECam. Journal of Instrumentation 10(5): C05032, 1-21 (2015).

Kellermann, H., F. Grupp, A. Brucalassi, Lang-Bardl, C. Franik, U. Hopp and R. Bender: A new fiber slit assembly for the FOCES spectrograph. In S. Shaklan (Ed.), Techniques and Instrumentation for Detection of Exoplanets VII, pp. 1-9 (2015).

Leviton, D. B., K.H. Miller, M.A. Quijada and F. Grupp: Temperature-dependent refractive index measurements of CaF2, Suprasil 3001, and S-FTM16 for the Euclid near-infrared spectrometer and photometer. In R. B. Johnson, V. N. Mahajan and S. Thibault (Eds.), Current Developments in Lens Design and Optical Engineering XVI, pp. 1-12 (2015).

Marlowe, H., R. L. McEntaffer, R. Allured, C. DeRoo, D. M. Miles, B. D. Donovan, J.

H. Tutt, V. Burwitz, B. Menz, G. Hartner, R.K. Smith, R. Günther, A. Yanson, G. Vacanti and M. Ackermann: Performance testing of a novel off-plane reflection grating and silicon pore optic spectrograph at PANTER. In Proc. of "EUV and X-ray Optics: Synergy between Laboratory and Space IV", Prague, Czech Republic, 2015. (Eds.) R. Hudec, L. Pina. Proceedings of SPIE Vol. 9510, 95100O (2015).

Meidinger, N., K. Nandra, M. Plattner, M. Porro, A. Rau, A. Santangelo, C. Tenzer and J. Wilms: Wide field imager instrument for the Advanced Telescope for High Energy Astrophysics. Journal of Astronomical Telescopes, Instruments, and Systems 1, 014006 (2015).

Meidinger, N., J. Eder, M. Fürmetz, K. Nandra, D. Pietschner, M. Plattner, A. Rau, J. Reiffers, R. Strecker, M. Barbera, T. Brand, and J. Wilms: Development of the Wide Field Imager for Athena. In: Proc. of "UV, X-Ray, and Gamma-Ray Space Instrumentation for Astronomy XIX", San Diego, USA, 2015. (Ed.) O. H. Siegmund. Proc. of SPIE Vol. 9601, 96010H-1-96010H-11 (2015).

Menz, B., H. Bräuninger, V. Burwitz, G. Hartner and P. Predehl: A Fresnel zone plate collimator: potential and aberrations. In: Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII, San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Paresci. Proceedings of SPIE Vol. 9603, 96031Q (2015).

Miles, D. R., J. H. Tutt, C. T. DeRoo, H. Marlowe, T. J. Peterson, R. L. McEntaffer, B. Menz, V. Burwitz, G. Hartner, C. Laubis, F. Scholze: Diffraction efficiency of radially-profiled off-plane reflection gratings. In Proc. of „Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII", San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Paresci. Proceedings of SPIE Vol. 9603, 960316 (2015).

Proserpio, L., C. Wellnhofer, E. Breunig, P. Friedrich and A. Winter: Addressing the problem of glass thickness variation in the indirect slumping technology. In Proc. of „SPIE 9603, Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII", San Diego, USA, 2015. (Eds.) S. L. O'Dell, P. Giovanni. Proceedings of SPIE Vol. 9603, 96030T-1-96030T-10 (2015).

Proserpio, L., E. Breunig, P. Friedrich, A. Winter, C. Rohe, J. Eder, V. Burwitz, G. D. Hartner, B. Menz, M. Civitani, S. Basso, E. Buratti: JIM: a joint integrated module of glass x-ray optics for astronomical telescopes. In Proc. of „SPIE 9603, Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII", San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Pareschi. Proceedings of SPIE 9603, 960311-1-960311-12 (2015).

Salmaso, B., M. Civitani, C. Brizzolari, S. Basso, M. Ghigo, G. Pareschi, D. Spiga, L. Proserpio and Y. Suppiger: Development of mirrors made of chemically tempered glass foils for future X-ray telescopes. Experimental Astronomy 39, 527-545 (2015).

Winter, A., E. Breunig, P. Friedrich, L. Proserpio and T. Döhring: Indirect glass slumping for future x-ray missions: overview, status and progress. In Proc. of „SPIE 9603, Optics for EUV, X-Ray, and Gamma-Ray Astronomy VII", San Diego, USA, 2015. (Eds.) S. L. O'Dell, G. Pareschi. Proceedings of SPIE Vol. 9603, 96030S-1-96030S-8 (2015).

8.3 Konferenzbeiträge

Referierte Proceedings

Bozzetto, L.M., M.D. Filipovic, F. Haberl, M. Sasaki, P. Kavanagh, P. Maggi, D. Urosevic and R. Sturm: Supernova Remnants in the Magellanic Clouds. Publication of Korean Astronomical Society 30, 149-153 (2015).

Codella, C., L. Podio, F. Fontani, I. Jimenez-Serra, P. Caselli, et al.: Complex organic molecules in protostellar environments in the SKA era. In proc. of "Advancing Astrophysics with the Square Kilometre Array (AASKA14)", Giardini Naxos, Italy, 2014, id. 123, Proceedings of Science, publ. electronically (2015).

Dickinson, C., R. Beck, R. Crocker, ..., A. Strong, et al.: SKA studies of in situ synchrotron radiation from molecular clouds. In Proc. of "Advancing Astrophysics with the Square Kilometre Array (AASKA14)", Giardini Naxos, Italy, 2014, id. 170, Proceedings of Science, publ. electronically (2015).

Grainge, K., S. Borgani, S. Colafrancesco, C. Ferrari, A. Scaife, P. Marchegiani, S. Emritte and J. Weller: The SKA and Galaxy Cluster Science with the Sunyaev-Zel'dovich Effect. In Proc. of "Advancing Astrophysics with the Square Kilometre Array (AASKA14)", Giardini Naxos, Italy, 2014, id. 170, Proceedings of Science, publ. electronically (2015).

Greiner, J., H.-F. Yu, T. Krühler, D. Frederiks, A. Beloborodov, P. Bhat, J. Bolmer, H. van Eerten, ..., A. Rau, P. Schady, S. Schmidl, V. Sudilovsky, D. Svinkin, M. Tanga, M. Ulanov, K. Varela, A. von Kienlin, and X.-L. Zhang: GROND coverage of the main peak of GRB 130925A. In: Swift: 10 Years of Discovery - SWIFT 10, pp. 1-9 (2015).

Hess, P. O., I. Rodríguez, W. Greiner, T. Boller: Neutron stars with dark energy. Journal of Physics: Conference Series, 578: 012008 (2015).

Hoare, M., L. Perez, T.L. Bourke, ..., P. Caselli, et al.: SKA and the Cradle of Life. In Proc. of "Advancing Astrophysics with the Square Kilometre Array (AASKA14)", Giardini Naxos, Italy, 2014, id. 115, Proceedings of Science, publ. electronically (2015).

Knust, F., H.J. van Eerten, J. Greiner, R. Filgas: Fitting GRB afterglow broadband data to hydrodynamical simulations. In: Swift: 10 Years of Discovery - SWIFT 10, pp. 1-6 (2015).

Pritchard, J., K. Ichiki, A. Mesinger, ..., J. Weller, et al.: Cosmology from EoR/Cosmic Dawn with the SKA. In Proc. of "Advancing Astrophysics with the Square Kilometre Array (AASKA14)", Giardini Naxos, Italy, 2014, id. 12, Proceedings of Science, publ. electronically (2015).

Schady, P.: Gamma-ray burst afterglows as probes of the ISM. Journal of High Energy Astrophysics 7, 56-63 (2015).

Testi, L., L. Perez, I. Jimenez-Serra, ..., P. Caselli, et al.: Protoplanetary disks and the dawn of planets with SKA. In Proc. of "Advancing Astrophysics with the Square Kilometre Array (AASKA14)", Giardini Naxos, Italy, 2014, id. 117, Proceedings of Science, publ. electronically (2015).

van Eerten, H.J.: Simulation and physical model based gamma-ray burst afterglow analysis. Journal of High Energy Astrophysics 7, 23-34 (2015).

Nicht-referierte Proceedings

Albertsson, T., D.A. Semenov, A.I. Vasyunin, T. Henning and E. Herbst: Modeling deuterium chemistry of interstellar space with large chemical networks. Highlights of Astronomy 16, 624-625 (2015).

Alves, F., G. A. P. Franco, J. M. Girart, P. Frau and H. Wiesemeyer: The Emergent Low-Mass Cluster B59: How to Beat Magnetic Fields. In Proc. of "Revolution in Astronomy with ALMA": The Third Year. (Eds.) D. Iono, K. Tatematsu, A. Wootten, L. Testi. ASP Conference Series Vol. 499, Astronomical Society of the Pacific, Orem, Utah, 237-238 (2015).

Bailey, J.D., J.D. Landstreet and S. Bagnulo: Discovery of Secular Evolution of the Atmospheric Abundances of Ap Stars. In Proc. of "IAUS 307: New Window on Massive Stars", Geneva, Switzerland, 2014. (Eds.) G. Meynet, C. Georgy, J. Groh, P. Stee. Proc. IAU 307, Cambridge University Press, Cambridge, UK, 365-366 (2015).

Barcons, X., K. Nandra, D. Barret, J.-W. den Herder, A.C. Fabian, L. Piro, M.G. Watson and the Athena Team: Athena: the X-ray observatory to study the hot and energetic Universe. Journal of Physics Conf. Ser. 610, 012008 (2015).

Beckman, J., P. Erwin and L. Gutiérrez: What Disc Brightness Profiles Can Tell us about Galaxy Evolution. Highlights of Astronomy 16, 361-361 (2015).

Charbonnel, C., M. Krause, T. Decressin, G. Meynet, N. Prantzos and R. Diehl: How did globular clusters lose their gas? Highlights of Astronomy 16, 255-256 (2015).

Coccato, L., L. Morelli, A. Pizzella, E.M. Corsini, E. Dalla Bontà and M. Fabricius: Counter-rotating disks in galaxies: dissecting kinematics and stellar populations with 3D spectroscopy. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 133-136 (2015).

Coutens, A., J.K. Jørgensen, M.V. Persson, J.M. Lykke, V. Taquet, E.F. van Dishoeck, C. Vastel and S.F. Wampfler: Water and complex organic molecules in the warm inner regions of solar-type protostars. In Proc. of "Annual meeting of the French Society of Astronomy and Astrophysics", Becancon, France, 2009. (Eds.) F. Martins, S. Boissier, V. Buat, L. Cambrésy, P. Petit. SF2A 2015, 437-440 (2015).

Davies, R.L., A. Beifiori, R. Bender, M. Cappellari, J. Chan, R. Houghton, T. Mendel, R. Saglia, R. Sharples, J. Stott, R. Smith and D. Wilman: The KMOS Galaxy Clusters Project. In Proc. of "IAUS 311: Galaxy Masses as Constraints of Formation Models", Oxford, United Kingdom, 2014. (Eds.) M. Capellari, S. Courteau. Proc. IAU 311, Cambridge University Press, Cambridge, UK, 110-115 (2015).

Davis, T.A., K. Alatalo, M. Bureau, ..., S. Khochfar, et al.: Spatially resolved molecular gas in early-type galaxies. Highlights of Astronomy 16, 122-123 (2015).

de Jong, J., A. Gueguen, J. Saiz, K. Exter, W. De Meester, W. Salomons, C. McCoey, E. Polehampton, P. Appleton, P. Morris and E. Sturm: Spectral Cube Visualisation and Explorer Tool from the Herschel Interactive Processing Environment (HIPE). In Proc. of "Astronomical Data Analysis Software an Systems XXIV (ADASS XXIV)", Calgary, Canada, 2014. (Eds.) A.R. Taylor, E. Rosolowsky. ASP Conf. Ser. 495, Astronomical Society of the Pacific, San Francisco, CA USA, 129 (2015).

Erwin, P., R. Saglia, J. Thomas, M. Fabricius, R. Bender, S. Rusli, N. Nowak, J.E. Beckman and J.C. Vega Beltrán: Using 3D Spectroscopy to Probe the Orbital Structure of Composite Bulges. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 359-360 (2015).

Fabricius, M., R. Saglia, D. Fisher, N. Drory, R. Bender and U. Hopp: A longslit spectroscopic survey of bulges in disc galaxies. Highlights of Astronomy 16, 345-345 (2015).

Fabricius, M.H., L. Coccato, R. Bender, N. Drory, C. Gössl, M. Landriau, R.P. Saglia, J. Thomas and M.J. Williams: Regrowth of stellar disks in mature galaxies: The two component nature of NGC 7217 revisited with VIRUS-W+. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 81-84 (2015).

Genzel, R. and R. Chiao: Charles Hard Townes. Phys. Today 68, 64-65 (2015).

Gerhard, O., M. Arnaboldi and A. Longobardi: The Outer Halos of Early-Type Galaxies. In Proc. of "IAUS 311: Galaxy Masses as Constraints of Formation Models", Oxford, United Kingdom, 2014. (Eds.) M. Capellari, S. Courteau. Proc. IAU 311, Cambridge University Press, Cambridge, UK, 31-35 (2015).

Gerhard, O.: Formation Models of the Galactic Bulge. In Proc. of "Fifty Years of Wide Field Studies in the Southern Hemisphere: Resolved Stellar Populations of the Galactic Bulge and Magellanic Clouds", La Serena, Chile, 2013. (Eds.) S. Points, A. Kunder. ASP Conf. Ser. 491, Astronomical Society of the Pacific, San Francisco, CA USA, 169 (2015).

Hilchenbach, M., Y. Langevin, C. Engrand, ..., G. Haerendel, et al.: In-Situ Cometary Particle Measurements in the Inner Coma of Comet 67P/Churyumov-Gerasimenko. In Proc. of "46th Lunar and Planetary Science Conference", The Woodlands, USA, 2015. (Eds.) LPI Editorial Board. Proc. Lunar and Planetary Institute Science Conferences 46, Lunar and Planetary Institute, 1936 (2015).

Ivlev, A.V., V. Nosenko and T.B. Röcker: Equilibrium and Non-Equilibrium Melting of Two-Dimensional Plasma Crystals. Contributions to Plasma Physics 55, 35-57 (2015).

Kim, J.W., G. Lemson, N. Bulatovic, ..., W. Voges, et al.: AWOB: A Collaborative Workbench for Astronomers. In Proc. of "Astronomical Data Analysis Software an Systems XXIV (ADASS XXIV)", Calgary, Canada, 2014. (Eds.) A.R. Taylor, E. Rosolowsky. ASP Conf. Ser. 495, Astronomical Society of the Pacific, San Francisco, CA USA, 491 (2015).

Kodama, T., M. Hayashi, Y. Koyama, K.-I. Tadaki, I. Tanaka, R. Shimakawa, T. Suzuki and M. Yamamoto: Mapping and resolving galaxy formation at its peak epoch with Mahalo-Subaru and Gracias-ALMA. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 255-258 (2015).

Kormendy, J. and K.C. Freeman: Scaling Laws for Dark Matter Halos in Late-Type and Dwarf Spheroidal Galaxies. In Proc. of "IAUS 311: Galaxy Masses as Constraints of Formation Models", Oxford, United Kingdom, 2014. (Eds.) M. Capellari, S. Courteau. Proc. IAU 311, Cambridge University Press, Cambridge, UK, 72-77 (2015).

Kormendy, J.: Internal and environmental secular evolution of disk galaxies. Highlights of Astronomy 16, 316-317 (2015).

Kümmel, M., J. Mohr, A. Fontana, H. Dole, A. Boucaud, R. Cabanac, M. Castellano, P. Petrinca and S. Pilo: Source Detection and Classification in Euclid. In Proc. of "Astronomical Data Analysis Software an Systems XXIV (ADASS XXIV)", Calgary, Canada, 2014. (Eds.) A.R. Taylor, E. Rosolowsky. ASP Conf. Ser. 495, Astronomical Society of the Pacific, San Francisco, CA USA, 249 (2015).

Leaman, R., K. Venn, A. Brooks, G. Battaglia, A. Cole, R. Ibata, M. Irwin, A. McConnachie, T. Mendel, E. Tolstoy and E. Starkenburg:. Using radial metallicity gradients in dwarf galaxies to study environmental processing. Memorie della Societa Astronomica Italiana, 85(3), 504-508 (2015).

Müller, T. G.: Kleinplanetenstudien am Beispiel (7984) Marius und weiterer "fränkischer" Kleinplaneten. Regiomontanusbote Jg. 28, 1 (2015).

Marlowe, H., R. L. McEntaffer, R. Allured, ..., V. Burwitz, B. Menz, G. Hartner, et al.: Performance testing of an off-plane reflection grating and silicon pore optic spectrograph at PANTER. Journal of Astronomical Telescopes, Instruments, and Systems 1(4), 045004, (2015).

Martinez-Valpuesta, I. and O. Gerhard: A secularly evolved model for the Milky Way bar and bulge. Highlights of Astronomy 16, 351-351 (2015).

Okada, T., T. Fukuhara, S. Tanaka, ..., T.G. Mueller, et al.: Thermal Infrared Imager TIR on Hayabusa2 for Observation of Asteroid (162173)1999JU3. In Proc. of "46th Lunar and Planetary Science Conference", The. (Eds.) LPI Editorial Board. Proc. Lunar and Planetary Institute Science Conferences 46, Lunar and Planetary Institute, 1331 (2015).

Opitsch, M., M. Fabricius, R. Saglia, R. Bender and M. Williams: Detailed stellar and gaseous kinematics of M31. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 334-334 (2015).

Raddi, R., B.T. Gänsicke, D. Koester, J. Farihi, J.J. Hermes, S. Scaringi, E. Breedt, J.

Girven and EGAPS Consortium: Is the Oxygen-Rich White Dwarf SDSS J1242+5226 Accreting Water-Abundant Debris?. In Proc. of "19th European Workshop on White Dwarfs", Montral, Canada, 2014. (Eds.) P. Dufour, P. Bergeron, G. Fontaine. ASP Conf. Ser. 493, Astronomical Society of the Pacific, San Francisco, CA USA, 273 (2015).

Remus, R.-S., K. Dolag and A. Burkert: The Dark Halo - Spheroid Conspiracy Reloaded: Evolution with Redshift. In Proc. of "IAUS 311: Galaxy Masses as Constraints of Formation Models", Oxford, United Kingdom, 2014. (Eds.) M. Capellari, S. Courteau. Proc. IAU 311, Cambridge University Press, Cambridge, UK, 116-119 (2015).

Rosen, S., M. Watson, J. Pye, N. Webb, A. Schwope, M. Freyberg, C. Motch, J. Ballet, F. Carrera, M. Page and C. Page: The 3XMM-DR4 Catalogue. In Proc. of "Astronomical Data Analysis Software an Systems XXIV (ADASS XXIV)", Calgary, Canada, 2014. (Eds.) A.R. Taylor, E. Rosolowsky. ASP Conf. Ser. 495, Astronomical Society of the Pacific, San Francisco, CA USA, 319 (2015).

Saha, K. and O. Gerhard: Rotation of classical bulges during secular evolution of barred galaxies. Highlights of Astronomy 16, 329-329 (2015).

Scaringi, S., T.J. Maccarone, E. Körding, C. Knigge, S. Vaughan, T.R. Marsh, E. Aranzana, V.S. Dhillon abd S.C.C. Barros: Accretion-induced variability links young stellar objects, white dwarfs, and black holes. Science Advances, 1(9): e1500686, pp. 1-6 (2015).

Schulz, R., M. Kadler, E. Ros, ..., C. Grossberger, et al.: The EVN view of the highly variable TeV active galaxy IC310. In: 12th European VLBI Network Symposium & Users Meeting - EVN 2014, pp. 1-4 (2015).

Siegert, T. and R. Diehl: Gamma-ray lines from SN2014J. In: 10th INTEGRAL Workshop: A Synergistic View of the High-Energy Sky – Integral2014, pp. 1-12 (2015).

Skinner, G., R. Diehl, X. Zhang, L. Bouchet and P. Jean: The Galactic distribution of the 511 keV e+/e- annihilation radiation. In: 10th INTEGRAL Workshop: A Synergistic View of the High-Energy Sky – Integral2014, pp. 1-10 (2015).

Strong, A. W., C. Dickinson and E. Murphy: Synchrotron emission from molecular clouds. In: Cosmic Rays and the InterStellar Medium Environment – CRISM2014, pp. 1-8 (2015).

Thi, W.-F.: Chemical networks. In Proc. of "Summer School - Protoplanetary Disks: Theory and Modeling Meet Observations", Ameland, The Netherlands, 2014. (Eds.) I. Kamp, P. Woitke, J.D. Ilee. EPJ Web of Conferences 10, EDP Sciences, Les Ulis, France, id. 200014 (2015).

Thi, W.-F.: Disk Chemistry. In Proc. of "Summer School - Protoplanetary Disks: Theory and Modeling Meet Observations", Ameland, The Netherlands, 2014. (Eds.) I. Kamp, P. Woitke, J.D. Ilee. EPJ Web of Conferences 10, EDP Sciences, Les Ulis, France, id. 200012 (2015).

Thomas, J., R. Saglia, R. Bender, P. Erwin and M. Fabricius: Massive Elliptical Galaxies: BH Scouring or a Bottom-Heavy IMF?. In Proc. of "IAUS 311: Galaxy Masses as Constraints of Formation Models", Oxford, United Kingdom, 2014. (Eds.) M. Capellari, S. Courteau. Proc. IAU 311, Cambridge University Press, Cambridge, UK, 36-39 (2015).

Trümper, J., K. Dennerl, N. Kylafis, A. Zezas and Ü. Ertan: The Quiescent X-Ray Emission of Axps and Sgrs – Powered by Accretion from a Fallback Disk. In Proc. of "The Thirteenth Marcel Grossmann Meeting", Stockholm, Sweden, 2012. (Eds.) R. Ruffini, R. Jantzen, U. Villanova, K. Rosquist. In: Thirteenth Marcel Grossmann Meeting: On Recent Developments in Theoretical and Experimental General Relativity, Astrophysics and Relativistic Field Theories, World Scientific Publishing, Singapore, Singapore,

2292-2294 (2015).

Tsytovich, V., R. Suetterlin, H. Thomas and A. Ivlev: Note on Mechanism for Formation of Bulbs (Structures) in Complex Plasmas with Grains of Different Size. Contributions to Plasma Physics 55, 494-497 (2015).

van Dishoeck, E. F., N. van der Marel, S. Bruderer and P. Pinilla: Quantifying the gas inside dust cavities in transitional disks: implications for young planets. In: D. Iono, K. Tatematsu, A. Wootten, & L. Testi (Eds.), Revolution in Astronomy with ALMA: The Third Year, pp. 281-284 (2015).

Varela, K., H.J. van Eerten, J. Greiner and P. Schady: Constraining the fireball scenario of GRB afterglows with GROND and multi-wavelength data. In: Swift: 10 Years of Discovery - SWIFT 10, pp. 1-6 (2015).

Wilman, D., R. Bender, R.L. Davies, J.T. Mendel, J. Chan, A. Beifiori, R. Houghton, R. Saglia, N.F. Schreiber, S. Wuyts, P. van Dokkum, M. Cappellari, J. Stott, R. Smith, M. Fossati, S. Kulkarni, S. Seitz, et al.: KMOS Clusters and VIRIAL GTO Surveys. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 293-294 (2015).

Wuyts, E.: The Evolution of Resolved Kinematics and Metallicity from Redshift 2.7 to 0.7 with LUCI, SINS/zC-SINF and KMOS^{3D}. In Proc. of "IAUS 309: Galaxies in 3D Across the Universe", Vienna, Austria, 2014. (Eds.) B.L. Ziegler, F. Combes, H. Dannerbauer, M. Verdugo. Proc. IAU 309, Cambridge University Press, Cambridge, UK, 243-246 (2015).

8.4 Bücher

Friedrich, S. and P. Friedrich (Eds.): Mondfinsternisse - Grundlagen, Beobachtung, Fotografie. Astronomie-Verlag, Schwaig 2015, 48 p.

Friedrich, S., P. Friedrich and K.-P. Schröder (Eds.): Handbuch Astronomie - Grundlagen und Praxis für Hobby-Astronomen. Oculum-Verlag, Erlangen 2015, 560 p.

8.5 Populärwissenschaftliche und sonstige Veröffentlichungen

Müller T. G.: Fränkische Kleinplaneten, Astronomie in Franken - Simon Marius und seine Zeit. Von den Anfängen bis zur modernen Astrophysik - 125 Jahre Dr. Karl Remeis-Sternwarte Bamberg (1889). Proceedings der Tagung des Arbeitskreises Astronomiegeschichte in der Astronomischen Gesellschaft, Nuncius Hamburgensis - Beiträge zur Geschichte der Naturwissenschaften. (Ed.) G. Wolfschmidt. G. Wolfschmidt, Hamburg, 256-270 (2015).

Primas, F., R. Ivison, J.-P. Berger, P. Caselli, I. De Gregorio-Monsalvo, A. Alonso Herrero, K.K. Knudsen, B. Leibundgut, A. Moitinho, I. Saviane, J. Spyromilio, L. Testi and S. Vennes: Shaping ESO2020+ Together: Feedback from the Community Poll. The Messenger 161, 6-14 (2015).

8.6 Vorträge, Astronomische Telegramme und Zirkulare, Poster

Mitarbeiter des MPE hielten im Jahr 2015 insgesamt 313 Vorträge auf Konferenzen, bei Seminaren und Kolloquien und in der Öffentlichkeitsarbeit im In- und Ausland. Zusätzlich haben sie an insgesamt 105 astronomischen Telegrammen, Zirkularen und Datenkatalogen mitgewirkt und 25 Poster als Erstautoren auf Konferenzen präsentiert. Die Zahlen, verteilt auf die einzelnen Arbeitsbereiche, sind in Tabelle 1 gelistet. Die Zahlen in Klammern geben die eingeladenen Vorträge (bei Konferenzen und zu Kolloquien) an, sowie die Zahl der Erstautorschaften bei Telegrammen und Zirkularen.

Tabelle 1: Vorträge, Telegramme/Zirkulare und Poster

Arbeitsgruppe	Vorträge	Telegramme, Zirkulare	Poster
Infrarot-/Submillimeter-Astronomie	118 (89))	3 (0)	5
Optische & Interpretative Astronomie	48 (28)	4 (2)	3
Hochenergieastrophysik	91 (58)	98 (44)	7
Zentrum Astrochemische Studien	32 (20)	0 (0)	10
Unabhängige Forschungsgruppen	24 (10)	0 (0)	0

Die vollständige Liste der Vorträge, der astronomischen Telegramme und Zirkulare sowie der Poster kann auf der MPE Internetseite (`http://www.mpe.mpg.de`) unter dem Punkt „Forschung/Veröffentlichungen“ eingesehen werden.

9 Öffentlichkeitsarbeit

Das MPE engagierte sich auch in der Öffentlichkeitsarbeit. Im Jahr 2015 hielten MPE-Wissenschaftler 30 populärwissenschaftliche Vorträge (z.B. an Schulen, Planetarien, bei Astronomischen Vereinigungen). Bei 27 Institutsführungen gewannen Gruppen, hauptsächlich Schulklassen von naturwissenschaftlich orientierten Schulen, einen Einblick in das Institut und seine Wissenschaft. Am „Girls' Day“ informierten sich 40 Mädchen über das MPE, 15 Schüler/innen erhielten in ein- oder zweiwöchigen Praktika und 10 Hochschüler in mehrwöchigen Praktika einen Einblick in die Arbeitswelt von Astrophysikern.

Weitere Informationen zur Öffentlichkeitsarbeit sind auf den MPE Webseiten zu finden (`http://www.mpe.mpg.de/`).

Reinhard Genzel