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0 Allgemeines

1 Personal und Ausstattung

1.1 Personalstand

Direktoren und Professoren: 5

Prof. Dr. Rolf Chini (senior researcher)

Prof. Dr. Ralf-Jürgen Dettmar

Prof. Dr. Anna Franckowiak

Prof. Dr. Catherine Heymans (Gastprofessorin; University of Edinburgh)

Prof. Dr. Hendrik Hildebrandt (Geschäftsführender Direktor)

Wissenschaftliche Mitarbeiter: 13

Dr. Björn Adebarh

Priv.-Doz. Dr. Dominik Bomans

Dr. Andrej Dvornik

Dr. Klaus Fuhrmann

Priv.-Doz. Dr. Martin Haas

Dr. Peter Kamphuis

Dr. Thomas Luks

Dr. Constance Mahony

Dr. Alex Malz

Dr. Francisco Pozo-Nuñez

Dr. Robert Reischke

Dr. Angus Wright

Dr. Mijin Yoon

Doktoranden: 12

Anna Berger
Julia Blex
Susanne Blex
Lukas Dirks
Zoreh Ghaffari
Marianne Langener
Ancla Müller
Martin Ochmann
Catalina Sobrino Figaredo
Michael Stein
Fabian Symietz
Jan Luca van den Busch

Bachelor- und Masterstudenten: 17

Aisha Bachmann
Stefan Bendig
Henning Bergmann
Julius Feldmann
Leon Gawlytta
Nicola Hunfeld
Selim Incirkus
Alexander Kloos
Marcel Mielach
Ulrich Schilling
Sam Taziaux
Deniz Teterra
Denise Trippe
Pascal Venedey
Maurice Weigelt
Sven Weimann
Anna Wittje

Sekretariat und Verwaltung: 1.5

Bettina Göldner
Vera Nowak

Technische Mitarbeiter: 3

Tim Falkenbach
Meike Jahn
Christian Vilter

Gäste: 4

Prof. Dr. Susanne Hüttemeister (apl. Prof.)

Helmut Niemsch

Prof. Dr. Elmar Träbert (apl. Prof.)

Priv.-Doz. Dr. Kerstin Weis

1.2 Instrumente und Rechenanlagen

2 Wissenschaftliche Arbeiten

3 Akademische Abschlussarbeiten

3.1 Bachelorarbeiten

Abgeschlossen: 7

Schaller, Bettina, Hunting for Extreme Emissionline Galaxies in MUSE Data Cubes with SoFiA

Soto Bravo, Francisca, Analysis of LOFAR 150MHz Radio Continuum Emission of Compact Dwarf Starburst

Frohn, Vanessa, Analysing Radio Continuum Emission of the SN Impostor Sn2000ch in NGC3432 Using Multi-Epoch VLA Data

Gemba, Gregor, Searching for the Most Evolved Stars in M83 Using MUSE IFU-Spectroscopy in 6 Fields

Feldmann, Julius, Analysis of Diffuse Radio Continuum Emission of Large Galaxies in the LOFAR LoTSS Deep Fields

Trippé Denisse, Exploring the Tip of the Red Supergiant Luminosity Function as New Distance Indicator for Galaxies

Gawlyttta, Leon, Ermittlung der gemittelten Geometrie der Radiohalos von CHANGES-Galaxies

3.2 Masterarbeiten

Abgeschlossen: 5

Enders, Adam, Analysing the Lyman Continuum photon loss in nearby dwarf galaxies with 3D photoionisation modelling and deep spectroscopy

Dirks, Lukas, Predicting Galaxies Metalicities with Multi-Wavelength Photometric Data Using Maschine-Learning Techniques

Stein, Michael, Analysing the Evolutionary Status of Low Surface Brightness Structures Using IFU Spectroscopy and Multi-Band Imagingsing the

Weimann, Sven, Dust Absorption in the Disk-haloInterface of Edge-On Galaxies: Photometry of Background Objects

Käufer, Till, Analysing the Performance of Self-Organising Aps for the Classification of Low Surface Brightness Objects

3.3 Dissertationen

Abgeschlossen: 2

Blex, Stefan, Low-Frequency Observations of NGC 4631 and NGC 3079

Ghaffari, Zohreh, Evolution of galaxy overdensities around high-redshift 3C radio galaxies and quasars at $1 < z < 2.5$

3.4 Habilitationen

Abgeschlossen: 0

4 Veröffentlichungen

4.1 In referierten Zeitschriften (59)

- Asgari, M., Tröster, T., Heymans, C., Hildebrandt, H., van den Busch, J. L., Wright, A. H. et al.: KiDS+VIKING-450 and DES-Y1 combined: Mitigating baryon feedback uncertainty with COSEBIs. *Astron. Astrophys.* **634** (2020), A127
- Baalmann, L. R., Scherer, K., Fichtner, H., Kleimann, J., Bomans, D. J., Weis, K.: Sky-maps of observables of three-dimensional magnetohydrodynamic astrosphere models. *Astron. Astrophys.* **634** (2020), A67
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- Bell, C. P. M., Cioni, M.-R. L., Wright, A. H. et al.: The intrinsic reddening of the Magellanic Clouds as traced by background galaxies - II. The Small Magellanic Cloud. *Mon. Not. R. Astron. Soc.* **499** (2020), 993
- Bellstedt, S., Driver, S. P., Robotham, A. S. G., ..., Wright, A. H.: Galaxy And Mass Assembly (GAMA): assimilation of KiDS into the GAMA database. *Mon. Not. R. Astron. Soc.* **496** (2020), 3235
- Blake, C., Amon, A., Asgari, M., Bilicki, M., Dvornik, A., ..., Heymans, C., Hildebrandt, H., ..., van den Busch, J. L., ..., Wright, A. H.: Testing gravity using galaxy-galaxy lensing and clustering amplitudes in KiDS-1000, BOSS, and 2dFLenS. *Astron. Astrophys.* **642** (2020), A158
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- Bose, B., Cataneo, M., Tröster, T., Xia, Q., Heymans, C., Lombriser, L.: On the road to per cent accuracy IV: ReACT - computing the non-linear power spectrum beyond Λ CDM. *Mon. Not. R. Astron. Soc.* **498** (2020), 4650
- Broderick, J. W., Shimwell, T. W., Gourdjii, K., ..., Jütte, E. et al.: LOFAR 144-MHz follow-up observations of GW170817. *Mon. Not. R. Astron. Soc.* **494** (2020), 5110
- Burger, P., Schneider, P., Demchenko, V., Harnois-Déraps, J., Heymans, C., Hildebrandt, H., Unruh, S.: An adapted filter function for density split statistics in weak lensing. *Astron. Astrophys.* **642** (2020), A161
- van den Busch, J. L., Hildebrandt, H., Wright, A. H., ..., Heymans, C. et al.: Testing KiDS cross-correlation redshifts with simulations. *Astron. Astrophys.* **642** (2020), A200
- Cataneo, M., Emberson, J. D., Imman, D., Harnois-Déraps, J., Heymans, C.: On the road to per cent accuracy - III. Non-linear reaction of the matter power spectrum to massive neutrinos. *Mon. Not. R. Astron. Soc.* **491** (2020), 3101
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- Connor, L., van Leeuwen, J., Oostrum, L. C., ..., Adebarh, B. et al.: A bright, high rotation-measure FRB that skewers the M33 halo. *Mon. Not. R. Astron. Soc.* **499** (2020), 4716
- Dvornik, A., Hoekstra, H., Kuijken, K., Wright, A. H., ..., Heymans, C., Hildebrandt, H. et al.: KiDS+GAMA: The weak lensing calibrated stellar-to-halo mass relation of central and satellite galaxies. *Astron. Astrophys.* **642** (2020), A83
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- Guenduez, M., Becker Tjus, J., Ferrière, K., Dettmar, R.-J.: A novel analytical model of the magnetic field configuration in the Galactic center. *Astron. Astrophys.* **644** (2020), A71
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- Hildebrandt, H., Köhlinger, F., van den Busch, J. L., Joachimi, B., Heymans, C., Kannawadi, A., Wright, A. H. et al.: KiDS+VIKING-450: Cosmic shear tomography with optical and infrared data. *Astron. Astrophys.* **633** (2020), A69
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- Krause, M., Irwin, J., Schmidt, P., ..., Miskolczi, A., ..., Dettmar, R.-J. et al.: CHANG-ES. XXII. Coherent magnetic fields in the halos of spiral galaxies. *Astron. Astrophys.* **639** (2020), A112
- Kurapati, S., Chengalur, J. N., Kamphuis, P., Pustilnik, S.: Mass models of gas-rich void dwarf galaxies. *Mon. Not. R. Astron. Soc.* **491** (2020), 4993
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- Ramatsoku, M., Serra, P., Poggianti, B. M., ..., Kamphuis, P. et al.: GASP. XXVI. HI gas in jellyfish galaxies: The case of JO201 and JO206. *Astron. Astrophys.* **640** (2020), A22
- Ramatsoku, M., Murgia, M., Vacca, V., ..., Kamphuis, P. et al.: Collimated synchrotron threads linking the radio lobes of ESO 137-006. *Astron. Astrophys.* **636** (2020), L1
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- Schmidt, S. J., Malz, A. I., Soo, J. Y. H., ..., LSST Dark Energy Science Collaboration: Evaluation of probabilistic photometric redshift estimation approaches for The Rubin Observatory Legacy Survey of Space and Time (LSST). *Mon. Not. R. Astron. Soc.* **499** (2020), 1587
- Sobrino Figaredo, C., Haas, M., Ramolla, M., Chini, R., Blex, J. et al.: Dust Reverberation of 3C 273: Torus Structure and Lag-Luminosity Relation. *Astron. J.* **159** (2020), 259
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- properties near the knee of the stellar-to-halo mass relation. *Mon. Not. R. Astron. Soc.* **499** (2020), 2896
- Träbert, E., Beiersdorfer, P., Brown, G. V., Hell, N., Clementson, J. H. T.: EUV spectra of europium—Chasing for spectral lines of P- to Ar-like ions. *X-Ray Spectrometry* **49** (2020), 209
- Tröster, T., Sánchez, A. G., Asgari, M., Heymans, C., Hildebrandt, H., Wright, A.: Cosmology from large-scale structure. Constraining Λ CDM with BOSS. *Astron. Astrophys.* **633** (2020), L10
- Vázquez-Mata, J. A., Loveday, J., Riggs, S. D., Wright, A. H.: Galaxy and mass assembly: luminosity and stellar mass functions in GAMA groups. *Mon. Not. R. Astron. Soc.* **499** (2020), 631
- Weżgowiec, M., Ehle, M., Soida, M., Dettmar, R.-J., Beck, R., Urbanik, M.: Hot gas heating via magnetic arms in spiral galaxies. The case of M 83. *Astron. Astrophys.* **640** (2020), A109
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- Xia, Q., Robertson, N., Heymans, C., Hildebrandt, H., Wright, A. H.: A gravitational lensing detection of filamentary structures connecting luminous red galaxies. *Astron. Astrophys.* **633** (2020), A89
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- Zajaček, M., Czerny, B., Martinez-Aldama, M. L., Sobrino Figaredo, C., Haas, M. et al.: Time-delay Measurement of Mg II Broad-line Response for the Highly Accreting Quasar HE 0413-4031: Implications for the Mg II-based Radius-Luminosity Relation. *Astrophys. J.* **896** (2020), 146
- Weis, K. Bomans, D. J.: Luminous Blue Variables. *Galaxies* **8** (2020), 20
- ## 4.2 Konferenzbeiträge (6)
- Adams, E. A., Adebahr, B., Connor, L., Apertif Team: The Apertif Surveys: The First Six Months. *Am. Astron. Soc.* **235** (2020), 136.07
- Dettmar, R.-J., Heesen, V., CHANG-ES Team: A fresh view of magnetic fields and cosmic ray electrons in halos of spiral galaxies. *Proc. IAU* (2020), 315
- Hildebrandt, H.: Weak Gravitational Lensing. in H_0 2020: Assessing Uncertainties in Hubble's Constant Across the Universe, held virtually 22–26 June, 2020. Online at www.eso.org/sci/meetings/2020/H0.html
- Kuraszkiewicz, J., Wilkes, B., Atanas, A., Haas, M. et al.: Obscuration and orientation effects in a medium redshift ($0.5 < z < 1$) 3CRR sample observed by Chandra. *Am. Astron. Soc.* **235** (2020), 125.06
- Mayer, P., Harmanec, P., Zasche, P., Chini, R., Nasseri, A. et al.: Improved physical properties of the quadruple sub-system with the eclipsing binary QZ Carinae. *Contrib. Astron. Obs. Skalnaté Pleso* **50** (2020), 580
- Ponder, K., Hlozek, R., Allam, T., Malz, A. et al.: The Photometric LSST Astronomical Time Series Classification Challenge (PLAsTiCC): Final Results. *Am. Astron. Soc.* **235** (2020), 203.15

4.3 Populärwissenschaftliche und sonstige Veröffentlichungen (2)

Chiaberge, M., Balmaverde, B., . . . , Haas, M. et al.: High-redshift 3CR: witnessing the formation of the most massive galaxies, clusters and AGN in the Bright Ages. HST Proposal. Cycle 28, ID. #16281

Weis, K.: Faszinierende Senioren unter den massereichen Sternen. *astronomie das magazin*, Ausgabe 13,10-17 (2020)

Hendrik Hildebrandt