

Deutsches Elektronen-Synchrotron DESY

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0 Allgemeines

Seit 2019 ist die Astroteilchenphysik ein eigener Forschungsbereich bei DESY. Der wissenschaftliche Schwerpunkt des Standortes Zeuthen liegt auf der Astroteilchenphysik (Gammaastronomie, Neutrinoastronomie, Theorie) und insbesondere der Multimessenger-Astronomie. DESY Zeuthen beherbergt eine Einrichtung zur Graduiertenförderung, die International Helmholtz-Weizmann Research School on Multimessenger Astronomy.

1 Personal und Ausstattung

1.1 Personalstand

Direktoren: 1

Prof. Dr. Christian Stegmann (Universität Potsdam)

Professoren: 6

Prof. Dr. Marek Kowalski (Humboldt-Universität zu Berlin), Prof. Dr. David Berge (Humboldt-Universität zu Berlin), Prof. Dr. Martin Pohl (Universität Potsdam), Prof. Dr. Anna Nelles (Friedrich-Alexander-Universität Erlangen-Nürnberg), Prof. Dr. Huirong Yan (Universität Potsdam), Jun.-Prof. Dr. Sara Buson (Julian-Maximilians Universität Würzburg)

Wissenschaftliche Mitarbeiter: 58

Doktoranden: 23

Technische Mitarbeiter: 54

Studentische Mitarbeiter: 9

Praktikanten: 1

Gäste: 10

2 Akademische Abschlussarbeiten

2.1 Dissertationen

Abgeschlossen: 10

- M. S. A. Alawashra. Plasma instabilities of TeV pair beams induced by blazars. University of Potsdam, Potsdam, 2024.

- V. D. Berlea. Radiation damage studies of monolithic silicon sensors for particle and astro-particle physics applications. Humboldt University, Berlin, 2024.
- L. Fischer. First Search for Heavy Neutral Leptons with IceCube Deep- Core. Humboldt-University Berlin, 2024.
- T. K. Kleiner. Investigating the Microquasar SS 433 and the PeVatron Candidate MGRO J1908+06 with a Novel Extended Source Analysis Method. Humboldt-Universität zu Berlin, 2024.
- R. Konno. Search for transient phenomena in the very-high-energy gamma-ray sky with H.E.S.S. Humboldt University of Berlin, Berlin, 2024.
- C. Lagunas Gualda. Realtime detection of high-energy neutrinos and search for correlations with candidate source classes. HU Berlin, 2024.
- R. Naab. Evidence for a break in the diffuse extragalactic neutrino spectrum. Humboldt-Universität Berlin, 2024.
- L. Pyras. Cosmic Rays and the Radio Neutrino Observatory Greenland (RNO-G). Friedrich-Alexander-Universität Erlangen-Nürnberg, 2024.
- V. Shaw. Cosmic-ray transport and signatures in their local environment. University of Potsdam, 2024.
- A. Trettin. Search for eV-scale sterile neutrinos with IceCube DeepCore. HU Berlin, 2024.

3 Veröffentlichungen

- M. G. Aartsen et al. Erratum: The IceCube Neutrino Observatory: instrumentation and online systems. *Journal of Instrumentation*, 19(05):E05001, and PUBDB- 2025-00168, arXiv:1612.05093. doi: 10.1088/1748-0221/19/05/E05001.
- R. Abbasi et al. Erratum: “IceCat-1: The IceCube Event Catalog of Alert Tracks” (2023, *ApJS*, 269, 25). *The astrophysical journal / Supplement series*, 272(1):24, and PUBDB-2024-07147. doi: 10.3847/1538-4365/ad41c2.
- R. Abbasi et al. Erratum: “Search for 10–1000 GeV Neutrinos from Gamma- Ray Bursts with IceCube” (2024, *ApJ*, 964, 126). *The astrophysical journal / Part 1*, 971(2):193, and PUBDB- 2025-00623. doi: 10.3847/1538-4357/ad683e.
- R. Abbasi et al. Probing the Connection between IceCube Neutrinos and MOJAVE AGN. *The astrophysical journal / Part 1*, 973(2):97, and PUBDB- 2024-06717, arXiv:2407.01351. doi: 10.3847/1538-4357/ad643d.
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- M. Ackermann and K. Helbing. Searches for beyond-standard-model physics with astroparticle physics instruments. *Philosophical transactions of the Royal Society of London / Series A*, 382(2266):20230082, and PUBDB-2023-07914. doi: 10.1098/rsta.2023.0082.

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- H. Ashkar et al. The Case of the Missing Very High-energy Gamma-Ray Bursts: A Retrospective Study of Swift Gamma-Ray Bursts with Imaging Atmospheric Cherenkov Telescopes. *The astrophysical journal / Part 1*, 964(1):57, and PUBDB-2024-07217, arXiv:2402.01421. arXiv:2402.01421. doi: 10.3847/1538-4357/ad26fa.
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- V. D. Berlea et al. Depletion depth studies with the MALTA2 sensor, a depleted monolithic active pixel sensor. *Nuclear instruments & methods in physics research / Section A*, 1063:169262, and PUBDB-2024-06992. doi: 10.1016/j.nima.2024.169262.
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