Bochum

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0 Allgemeines

1 Personal und Ausstattung

1.1 Personalstand

Direktoren und Professoren: 7

Prof. Dr. Dominik Bomans (apl. Prof), Prof. Dr. Rolf Chini (senior researcher), Prof. Dr. Ralf-Jürgen Dettmar (Seniorprofessor), Prof. Dr. Anna Franckowiak (Geschäftsführende Direktorin), Prof. Dr. Catherine Heymans (Gastprofessorin; University of Edinburgh), Prof. Dr. Hendrik Hildebrandt, Jun. Prof. Dr. Christopher Riseley.

Wissenschaftliche Mitarbeiter: 18

Dr. Björn Adebahr, Dr. Victor Barbosa Martins, Dr. Andrej Dvornik, Dr. Lucas Gréaux, Dr. Peter Kamphuis, Dr. Maria Kherlakian, Dr. Nikolas Korzoun, Dr. Shun-Sheng Li, Dr. Nora Valtonen-Mattila, Dr. Yuriy Popovych, Dr. Elisa Pueschel, Dr. Sruthiranjani Ravakularaman, Dr. Martín Rodríguze Monroy, Dr. Benjamin Stölzner, Dr. Jan Luca van den Busch, Dr. Angus Wright, Dr. Ziang Yan, Dr. Angela Zegarelli.

Doktoranden: 12

Frederike Apel, Klara Bertmann, Paul-Simon Blomenkamp, Eray Genc, Anastasiia Omeliukh, Oleksandr Savushkin, Giacomo Sommani, Pascal Vennedey, Patrik Veres, Sven Weimann, Anna Wittje, Shiyang Zhang.

Bachelor- und Masterstudenten: 18

Bachelorstudenten: 9

Breshna Hadi, Jan Luca Hanke, Franka Krapiau, Maria-Irina Mociu, Warot Petthongchai, Nena Schröer, Aathira Sivakumar, Swatti Swatti, Lana Unterkötter.

Masterstudenten: 9

Leon Gawlytta, Philipp Henn, Fabian Kampshoff, Patrick Kleu, Simon Pick, Yannik Pospiech, Satnam Singh, Jannik Teuchert, Fatma Yasa.

Sekretariat und Verwaltung: 2

Ann-Kathrin Prinzenberg, Vera Nowak.

Technische Mitarbeiter: 2

Tim Falkenbach, Meike Jahn (beurlaubt).

Studentische Mitarbeiter: 1

Maria-Irina Mociu.

Gäste: 6

Prof. Dr. Susanne Hüttemeister (apl. Prof.), Wenlian Li (Shanghai Jiao Tong University, China), Helmut Niemsch, Prof. Dr. Tom Richtler (U. Conception, Chile), Prof. Dr. Elmar Träbert (apl. Prof.), Priv.-Doz. Dr. Kerstin Weis.

Leitung von Kollaborationen

- German Centre for Cosmological Lensing (GCCL)
- Kilo-Degree Survey (KiDS) weak lensing team

Mitarbeit in Kollaborationen

- ESA/NASA Euclid Mission
- NASA Aspera Mission
- LSST Dark Energy Science Collaboration (DESC)
- Physics of the Accelerating Universe Survey (PAUS)
- Ultraviolet Near Infrared Optical Northern Survey (UNIONS)
- Murchison Widefield Array (MWA)
- Low Frequency Array (LOFAR) Magnetism Key Science Projekt
- Low Frequency Array (LOFAR) Survey Key Science Project
- Australian Square Kilometer Array Pathfinder (ASKAP) Evolutionary Map of the Universe (EMU) survey
- ASKAP POlarisation Sky Survey of the Universe's Magnetism (POSSUM) survey
- IceCube Neutrino Observatory
- Fermi Large Area Telescope (LAT)
- All Sky Automated Survey for SuperNovae (ASAS-SN)
- Cherenkov Telescope Array Observatory (CTAO)
- Very Energetic Radiation Imaging Telescope Array System (VERITAS)
- D-MeerKAT-II und D-MeerKAT-III (BMBF ErUM Pro)
- D-LOFAR-2.0 und D-LOFAR-ERIC (BMBF ErUM Pro)
- DFG SFB 1491
- Big Bang to Big Data (B3D) (NRW Profilbildung)
- NRW-FAIR (NRW Netwerk)

2 Akademische Abschlussarbeiten

2.1 Bachelorarbeiten

Abgeschlossen: 8

Jan Luca Hanke: „Likelihood analysis to determine the upper limit curve on the thermally averaged dark matter annihilation cross-section using gamma-ray observation of the dwarf galaxy Ursa Major III.“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

Aathira Sivakumar: „Search for Gamma-Ray Emission from Seyfert Galaxies with Fermi-LAT Data Analysis“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

Swatti Swatti: „Studying Simulated IceCube Neutrinos to Identify Tracers of Poorly Localized Events“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

Franka Krapiau: „Analyzing Spatio-temporal Correlations between Fermi-LAT Gamma-ray Sources and the IceCube Neutrino Catalog IceCat-2“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

Maria-Irina Mociu: „Analysis of Overlapping High-Energy Neutrino Events from the IceCube Alert Track Catalog“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

Warot Petthongchai: „Search for Gamma-Ray Emission from Close-By Supernovae by Analysing Fermi-LAT Data“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

Lana Unterkötter: „Analysis of Simulated IceCube data to Study the Performance of a Novel Reconstruction Technique“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

Breshna Hadi: „Analysis of Very Long Baseline Interferometric Data of the IceCube Neutrino Source Candidate Blazar GB6 J1542+6129“, Bochum, Astronomisches Institut, Bachelorarbeit, 2025

2.2 Masterarbeiten

Abgeschlossen: 9

Yannik Pospiech: „Calculation of possible high-energy neutrino emission of Fast Blue Optical Transients and Core Collapse Supernovae and comparison to IceCube sensitivity“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Satnam Singh: „Core-Collapse Supernovae Harboring Choked Jets: Compilation of a Catalog of Potential Source Candidates to Investigate the Related High-Energy Neutrino Production“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Jannik Teuchert: „Numerical predictions of gamma-ray burst neutrinos from the prompt emission phase based on a proton-synchrotron model“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Simon Pick: „Laboratory Measurement of Direct Muon Signals in IceCube Upgrade Modules to Study Impact for Muon Track Reconstruction“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Klara Bertmann: „Investigating the impact of redshift distribution uncertainties on the Euclid photometric cosmological probes“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Patrick Kleu: „Hunting for Solar System Objects in KiDS/Viking Imaging using Data Science Methods“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Leon Gawlytta: „Exploring the Lyman-break galaxies population at $z \approx 3$ in KiDS“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Fatma Yasa: „Leveraging Photometric Redshifts with Cross- Correlation Calibration Techniques“, Bochum, Astronomisches Institut, Masterarbeit, 2025

Fabian Kampshoff: „Probing the Intergalactic Gas with KiDS-Legacy and the Thermal Sunyaev-Zeldovich Effect“, Bochum, Astronomisches Institut, Masterarbeit, 2025

2.3 Dissertationen

Abgeschlossen: 2

Anastasiia Omeliukh, „Multi-messenger modeling of blazar spectral energy distributions-Dissertation“, Bochum, Astronomisches Institut, 2025

Sven Weimann, „Development of the Filter Adapter for Polarization Measurements with the Large Array Survey Telescope and Analysis of Initial Observational Data“, Dissertation, Bochum, Astronomisches Institut, 2025

2.4 Habilitationen

Abgeschlossen: 0

3 Veröffentlichungen

3.1 In referierten Zeitschriften (129)

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Veutro, A., Di Palma, I., & Zegarelli, A.: Extracting SASI signatures from gravitational waves of core-collapse supernovae using the Hilbert-Huang transform. PRD 112 (2025) 103020.

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Taziaux, S., Bomans, D. J., Riseley, C. J., et al.: Deep polarimetry study reveals double ring odd radio circle-like structures. A&A 702 (2025) A219.

Apel, F., Omeliukh, A., Franckowiak, A., & Lederer, J.: Impact of model parameter degeneracy on leptonic radiation models: The case of blazar multiwavelength spectra. A&A 702 (2025) A199.

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