Hamburg

Hamburger Sternwarte

Gojenbergsweg 112, 21029 Hamburg Tel.: +49 40 42838 8512 Fax : +49 40 42838 8598
sternwarte@hs.uni-hamburg.de www.hs.uni-hamburg.de

0 Allgemeines

Die 1833 in der Nähe des Hamburger Hafens gegründete Sternwarte wurde 1912 auf den Gojenberg im östlich vom Hamburger Zentrum gelegenen Bergedorf verlegt. 1968 wurde die Sternwarte Teil des Fachbereichs Physik der Universität Hamburg. Hier befinden sich die Lehrstühle und Arbeitsgruppen im Bereich der Astrophysik. Neben Forschung und Lehre gewinnt an der Sternwarte die Öffentlichkeitsarbeit zunehmend an Bedeutung. 2019 wurden insgesamt rund 35 000 Besucher gezählt, von denen ca. 1 700 Gäste Wissenschaftler und Wissenschaftlerinnen waren; alle anderen nutzten die Sternwarte mit ihrem viefältigen Veranstaltungsprogramm in musealer Umgebung als Ausflugsziel und Bildungsangebot.

1 Personal und Ausstattung

1.1 Personalstand

Direktoren und Professoren: 7

Prof. Dr. Robi Banerjee (Geschäftsführender Direktor), Mitglied Excellenz-Cluster Quantum-Universe; Prof. Dr. Marcus Brüggen, Mitglied Excellenz-Cluster Quantum-Universe; Prof. Dr. Peter Hauschildt; Prof. Dr. Jochen Liske, Mitglied Excellenz-Cluster Quantum-Universe, Vertreter Deutschlands im wissenschaftlich-technischen Beirat der ESO; Prof. Dr. Jürgen Schmitt (bis März 2019); Prof. Dr. Günter Wiedemann; Juniorprof. Dr. Francesco de Gasperin

Wissenschaftliche Mitarbeiter: 37

Dr. Robert Baade; Dr. Wladimir Banda-Barragan; Dr. Laura Birzan; Sarah Casura; Dr. Virginia Cuciti; Dr. Stefan Czesla; Paola Dominguez Fernandez; Sebastian Freund; Dr. Birgit Fuhrmeister; Dr. Nicolás Gonzáles-Pérez; Dr. Hans Hagen; Stefan Hackstein; Dr. Volker Heesen; Dominik Hintz; Dr. Duy Hoang; Dr. Panagiotis Ioannidis; Alexander Jones; Dr. Bastian Körtgen; Dr. Jarkko Laine; Dr. Marco Mittag; Dr. Holger Müller; Dr. Thomas

Pasini; Dr. Vera Maria Passegger; Fiona Prodöhl; Dr. David Rafferty; Suvrat Rao; Dr. Jan Robrade; Simon Selg; Dr. Shane O'Sullivan; Dr. Urs Schäfer; Fr. Tobias Schmidt; Dr. Wolfram Schmidt; Dr. Christian Schneider; Dr. Andreas Schweitzer; Dr. Pranjal Trivedi; Dr. Rainer Wichmann; Dr. Uwe Wolter.

Doktoranden: 17

Bachelor- und Masterstudenten: 15

Sekretariat: 1

Verwaltung: 1

Bibliothek: 1

Technische Mitarbeiter: 12

1.2 Instrumente und Rechenanlagen

Kleines Radioteleskop KR3; LOFAR-Station Norderstedt, Oskar-Lühning-Teleskop; TIGRE-Teleskop; PHOENIX Code; FLASH Code

2 Wissenschaftliche Arbeiten

Interstellares Medium/Sternentstehung

- Dynamik des interstellaren, magnetisierten Mediums in Scheibengalaxien
- Struktur und Ausdehnung von HII-Regionen in Molekülwolken
- Untersuchung der Säulendichte: Struktur und Vollständigkeit

Stellarphysik

- Der Applegate-Mechanismus: Eklipszeitvariation durch magnetische Aktivität

Kosmologie

- Heizeffizienz durch kosmologische Magnetfelder während der Rekombination
- Beobachtbare Effekte durch Theorien variierender Lichtgeschwindigkeit

Extragalaktische Astronomie

- Entwicklung von Galaxien: Verschmelzungen, Bulge-Scheiben Zerlegung
- Folgebeobachtungen von Gravitationswellen-Events
- Instrumentierung: 4MOST und ELT-HIRES

Radioastronomie

- Diffuse Radioquellen und AGN

Astrophysikalische Hydrodynamik

- Stoßwellen, Multiphasenströmungen

Sternatmosphären

- Atmosphärenmodellierung von M-Zwergen und pre-CVs
- 3D-Strahlungstransporttechniken und 3D-Strahlungstransport in bestrahlten Geometrien
- Spektralanalyse der CARMENES-M-Zwerge sowie von A-Sternen und Novae
- Radialgeschwindigkeitsanalyse von spektroskopischen Doppelsternen

3 Akademische Abschlussarbeiten

3.1 Bachelorarbeiten

Abgeschlossen: 12

3.2 Masterarbeiten

Abgeschlossen: 0

3.3 Dissertationen

Abgeschlossen: 5

Arkenberg, Mario: 3D NLTE radiative transfer on a Sun-like atmosphere model. Hamburg, Hamburger Sternwarte, 2019

Kummer, Janis : Astrophysical Implications of Self-interacting Dark Matter. Hamburg, Hamburger Sternwarte, 2019

Lukic, Vesna: Deep Learning in Radio Astronomy. Hamburg, Hamburger Sternwarte, 2019

Wichert , Viktoria: Numerical Radiation Transport Algorithms for Emergent Computer Architectures. Hamburg, Hamburger Sternwarte, 2019

Perdelwitz, Volker : Detection methods for planets with a large semi-major axis in the solar system and beyond. Hamburg, Hamburger Sternwarte, 2019

3.4 Habilitationen

Abgeschlossen: 0

4 Veröffentlichungen

4.1 In referierten Zeitschriften

Alcalá, J. M., Manara, C. F., France, K., Schneider, C. P., Arulanantham, N., Miotello, A., Günther, H. M., & Brown, A.: HST spectra reveal accretion in MY Lupi. A&A, **629** (2019), A108

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Andrade-Santos, F., van Weeren, R. J., Di Gennaro, G., Wittman, D., Ryu, D., Vir Lal, D., Placco, V. M., Fogarty, K., Jee, M. J., Stroe, A., Sobral, D., Forman, W. R., Jones,

C., Kraft, R. P., Murray, S. S., Brüggen, M., Kang, H., Santucci, R., Golovich, N., & Dawson, W.: Chandra Observations of the Spectacular A3411-12 Merger Event. ApJ, **887** (2019), 31

Arias, M., Vink, J., Zhou, P., de Gasperin, F., Hardcastle, M. J., & Shimwell, T. W.: Low-frequency Radio Absorption in Tycho's Supernova Remnant. AJ, **158** (2019), 253

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Robi Banerjee