

**The many Scales of the Universe:
Galaxies, their Suns, and their Planets**
Annual Meeting of the Astronomische Gesellschaft 2017
Göttingen, September 18–22, 2017

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Should you have any questions related to the conference organization or need other help, please, feel free to contact the conference office:

Phone: +49 (551) 39-5042
email: loc@ag2017.uni-goettingen.de

We wish you an inspiring and productive conference and hope you will enjoy your stay in Göttingen!

Preamble

Dear colleagues and friends,

for an astronomer and astrophysicist, coming to Göttingen is like coming home. So preeminent has been the scientific heritage of some of the most prominent titans of our field – Carl Friedrich Gauß (do I need to say more?) and Karl Schwarzschild – the latter one often referred to as “Father of Astrophysics”. And indeed it was Göttingen, where



Image: AIP.

Schwarzschild wrote his fundamental works on the theory of optical systems, on the structure of the solar atmosphere and on the stellar kinematics of the solar neighborhood. The German Astronomical Society honors the many groundbreaking works of Karl Schwarzschild by commemorating his legacy with the highest honor German Astronomy has to bestow – The Karl Schwarzschild Medal. The associated Karl Schwarzschild lecture traditionally opens the science program of our meeting – this year by recognizing one of the pioneers of German radio astronomy, the former director at the MPI for Radioastronomy, Prof. Richard Wielebinski.

The purpose of the meetings by professional societies is however also to promote the field outside of the immediate realm of scientific exchange: to address decision makers and to emphasize the science-political needs of our field. Indeed, few fields depend on major science infrastructures in a way as astronomy does. It is therefore also appropriate to use this year’s gathering to present to the public the Denkschrift (memorandum) 2017 “Perspectives of astrophysics in Germany 2017–2030: From the beginnings of the cosmos to clues for life on extrasolar planets”. This long-term review and plan bears testament to an impressive development of our research field in the past 15 years. The Denkschrift lays out projects and recommendations that we, the German astronomical community, consider crucial to keep German astronomy well-positioned in the inter-

national competition to unravel the mysteries of the Universe. The Denkschrift will be presented to the public in a press conference after the Award ceremony on Tuesday.

Let me close with my special thanks to the scientific organizing committee around Stefan Dreizler and Sami Solanki and the local organizing team around Klaus Reinsch and Sonja Schuh for all the efforts they have put into this event.

With the best wishes for a scientifically stimulating meeting

Matthias Steinmetz
President of the AG

Dear colleagues and friends,

Göttingen has been the venue of six meetings of the German Astronomical Society (Astronomischen Gesellschaft, AG) since 1902. A momentous occasion in this series of AG meetings in Göttingen was the re-founding of the AG after the Second World War 70 years ago. The last of this series so far was in 1999, i.e. still in the last millennium. Since then, astronomical research in Göttingen has seen quite some changes. The astrophysicists left the historical building of the University Observatory, where among others Carl Friedrich Gauß and Karl Schwarzschild were directors. The Institute for Astrophysics Göttingen (IAG) is now in the new building of the Physics Department, the main venue of this year's AG meeting. The new name of the institute underlines how deeply astrophysics is embedded in the research and teaching environment in the department of physics. The closer connection to colleagues and students is of similar importance as the new infrastructure.



Image: Uni Göttingen.

At the time of the last AG meeting in Göttingen, the Max Planck Institute for Solar System Research (MPS) was still called the Max Planck Institute for Aeronomy (MPAe) and was located in the little village of Katlenburg-Lindau. It was relocated to Göttingen in 2014 in close vicinity to the IAG. The new MPS building will be the venue of the conference dinner as well as of splinter meetings. The new building as well as the better connection to scientists and students in astrophysics and other departments at the Göttingen Campus is of great mutual benefit. A direct consequence was the implementation of a third director position at MPS as joint professor with the IAG as well as a new professor position at the IAG.

Today, both institutes form a research focus in astrophysics, ranging from cosmology, stellar and solar physics to planetary science inside and outside of our solar system. MPS and IAG are also leading institutions in developing and building space and ground based instrumentation. As examples for a much larger variety of activities, the IAG has contributed instrumentation for various observatories (e.g. MUSE, MICADO, CARMENES, HETDEX), while the MPS has provided a variety of instruments to a series of ESA and NASA space missions (ROSETTA, DAWN, Solar ORBITER) and the balloon borne observatory SUNRISE.

The Institute for Astrophysics and the Max Planck Institute for Solar System Research would like to welcome you to our jointly organized Annual Meeting of the German Astronomical Society 2017. The versatile program under the title “The many Scales of the Universe: Galaxies, their Suns, and their Planets” offers you an exciting set of plenary talks as well as a rich spectrum of splinter meetings and poster sessions. We hope that you will make use of the numerous opportunities for interesting and lively discussions after the talks, during the breaks, in the poster sessions and at the conference dinner.

Stefan Dreizler
(on behalf of the Scientific Organizing Committee)

Scientific Organizing Committee

Stefan Dreizler (Universität Göttingen, chair)
Sami Solanki (MPS Göttingen, co-chair)
Conny Aerts (KU Leuven)
Matthias Bartelmann (Universität Heidelberg)
Barbara Ercolano (LMU München)
Susanne Hüttemeister (Universität Bochum)
Michael Kramer (MPIfR Bonn)
Nathalie Krivova (MPS Göttingen)
Matthias Steinmetz (AIP Potsdam)
Stefanie Walch (Universität Köln)
Joachim Wambsganß (Universität Heidelberg)

Local Organizing Committee

Klaus Reinsch (Universität Göttingen, chair), Sonja Schuh (MPS Göttingen, co-chair), Regina von Berlepsch (AIP Potsdam), Nicole Böker (Universität Göttingen), Ines Dominitzki (MPS Göttingen), Klaus Jäger (MPIA Heidelberg), Wolfram Kollatschny (Universität Göttingen), Daniela Krone (Universität Göttingen), Birgit Krummheuer (MPS Göttingen), Andreas Lagg (MPS Göttingen), Hardi Peter (MPS Göttingen), Sibylla Siebert-Rust (MPS Göttingen), Thomas Wiegelmann (MPS Göttingen), Klaudia Wolters (Universität Göttingen)

Local Organizing Committee Support

Kinga Albert, Matthias Ammler-von-Eiff, Gesa Becker, Benjamin Bischoff, Alessandro Cilla, Merten Dahlkemper, Meike Fischer, Fabian Göttgens, Eliana Amazo Gomez, Rick Hessman, Tim-Oliver Husser, Hans Huybrighs, Erik Johnson, Felix Mackebrandt, David Marshall, Sven Martens, Mayukh Panja, Paul-Louis Poulhier, Bastian Proxauf, Noah Molinski, Catharina Rogge, Kamal Sant, Sudharshan Saranathan, Mira Schmitt, Mariangela Viviani, Franziska Zeuner



GEORG-AUGUST-UNIVERSITÄT
GÖTTINGEN



Logistics

Wireless Network Access

Wireless network is available in all lecture and seminar rooms of the conference. If you do not have access to **eduroam** you may ask for a guest voucher at the registration desk to obtain access to the **GuestOnCampus** network.

Guided Tours

Guided tours through the laboratories at the Institute for Astrophysics and at the Max Planck Institute for Solar System Research will be offered during lunch breaks. There will also be opportunities to visit the Physical Cabinet with a collection of historical instruments next to the main lecture room.

The number of participants for all guided tours will be limited. Please, enscribe in the lists provided at the registration desk.

Lunch Options

The **Dining Hall** (Nordmensa) is open for lunch from 11:15 to 14:15 (Monday to Thursday) and from 11:15 to 14:00 on Friday. It is located at some 5 minutes walking distance from the physics building (see map) and includes a **bistro and coffee bar** (coffeebar ins grüne).

Information about dishes is available under
<https://www.studentenwerk-goettingen.de/speiseplan.html?L=1>

There is also a **cafeteria** (CaPhy) in the basement of the physics building (next to the main lecture room) where you can buy snacks, sandwiches, soft drinks, etc.

It is possible to pay cash in the Nordmensa and in the cafeterias.

Besides that you can find fast food options and a Chinese restaurant at the shopping center on the street “An der Lutter” below the crossing with Robert-Koch-Straße in 10 minutes walking distance (see map).

Detailed Program

This is the detailed program as of September 8th. You will find additional and updated information on the conference website <http://ag2017.uni-goettingen.de>.

You can get there using this QR-Code:



Lecture Halls

All plenary talks will be held in the main lecture room (HS1 – Hörsaal 1) of the faculty of physics (Friedrich-Hund-Platz 1, 37077 Göttingen). Splinter meetings will be held in the lecture rooms of the physics building (HS1, HS2, HS3, HS4, and HS5) and in the Max Planck Institute for Solar System Research (Justus-von-Liebig-Weg 3, 37077 Göttingen), just across the road (A+B+C MPS, D+E+F MPS, and Auditorium MPS). The locations are shown on the map in this booklet. In addition signs in the buildings will guide you.

Monday, 18 September 2017

- | | | |
|--------------------|---|--|
| 09:00–18:00 | Arbeitskreis Astronomiegeschichte | Historische Sternwarte, Geismarlandstr. 11 |
| 09:00–13:00 | Meeting AG Board (closed session) | H MPS |
| 13:00–18:00 | RDS Meeting (closed session) | Auditorium MPS |
| 13:00–16:00 | Young Astrophysicists Meeting | A+B+C MPS |
| 16:00–18:00 | Astro-Frauen-Netzwerk Get-together | A+B+C MPS |
| 18:30–20:30 | Welcome Reception | Alte Mensa, Wilhelms-Platz 3 |
| 18:30 | Welcome Addresses:
Rolf-Georg Köhler (Mayor of the City of Göttingen)
Prof. Dr. Stefan Dreizler (Chair Scientific Organizing Committee) | |

Tuesday, 19 September 2017

09:00–10:30 Opening & Award Ceremonies HS1

Music: Joseph Haydn, Divertimento B major for wind quintet

09:00 Opening and Chairperson:
 Prof. Dr. Matthias Steinmetz (President of the Astro-
 nomical Society)

Welcome Addresses:

Prof. Dr. Ulrike Beisiegel (President of the Georg-August-Universität Göttingen)

Prof. Dr. Tim Salditt (Dean of the Faculty of Physics)

Prof. Dr. Sami Solanki (Director at the MPI for Solar System Research)

09:30 Karl Schwarzschild Lecture – Richard Wielebinski:
 Cosmic magnetic fields

10:30–11:00 Coffee Break & Poster Session Foyer Physics

11:00–12:30 Award Ceremonies (continued) HS1

Chairperson: M. Steinmetz

11:00 Ludwig Biermann Award Talk – Diederik Kruijssen:
 The Physics Driving the Molecular Cloud Lifecycle
 during Galaxy Formation and Evolution

11:30 PhD Award Talk – Philipp Grete:
 Large eddy simulations of compressible magnetohydro-
 dynamic turbulence

11:50 Instrumentation Award Talk – Albrecht Poglitsch:
 "Es gibt nicht Gutes, außer man tut es" – Reflections
 on progress in astronomical Instrumentation

12:10 Awards:
 Bruno H. Bürgel Award: Hans-Ulrich Keller
 Roelin Award: Michael Winkhaus
 Jugend-forscht Award:
 Maximilian Marienhagen, Toni Ringling, Aaron Wild

12:30–14:00	Lunch Break	
14:00–15:00	Press Conference – Denkschrift Astronomie http://www.denkschrift2017.de/	A+B+C MPS
14:00–16:30	Splinter Meetings	
CCAT	CCAT-prime: new submillimeter science opportunities	Auditorium MPS
Computation	Computational Astrophysics	HS3
E-Science	E-Science, E-Infrastructures, and Virtual Observatory (Machines of Discovery)	HS2
Non-Thermal	Surveying the non-thermal Universe	HS4
Plasma	Space Plasma Processes in Stellar and Planetary Environments	D+E+F MPS
Populations	Stellar Populations in and around the Milky Way	HS5
16:30–17:00	Coffee Break & Poster Session	Foyer Physics
17:00–20:00	Mitgliederversammlung der Astronomischen Gesellschaft	Auditorium MPS

Wednesday, 20 September 2017

09:00–10:30	Plenary Talks	HS1
	Chairperson: M. Sasaki	
09:00	Karl Gebhardt: The HETDEX Dark Energy Experiment	
09:30	Bringfried Stecklum: Accretion outbursts from high-mass young stellar objects	
10:00	Harold Yorke: SOFIA in the Era of JWST and ALMA	
10:30–11:00	Coffee Break & Poster Session	Foyer Physics
11:00–12:30	Plenary Talks	HS1
	Chairperson: A. Hatzes	
11:00	Rolf Schlichenmaier: Solar magnetoconvection observed with GREGOR	
11:30	Istvan Dekany: Classical pulsators as population tracers: a journey to the far side of the Milky Way	
12:00	Sebastian Kamann: A MUSE view on Galactic globular clusters	
12:30–12:40	Conference photo	HS1
12:40–14:00	Lunch Break	
12:40–13:40	AFN Pizza Lunch Meeting	SR17

14:00–16:30 Splinter Meetings

AGN	Active Galactic Nuclei	HS4
Computation	Computational Astrophysics	HS3
Euclid	The Euclid space mission	HS2
Exoplanets	Exoplanets	HS1
HiRes	High-Resolution Solar Imaging, Spectroscopy, and Polarimetry – Recent Developments in Science and Instrumentation	Auditorium MPS
Populations	Stellar Populations in and around the Milky Way	HS5

14:00–16:30 Public Outreach Meeting SR17

16:30–17:00 Coffee Break & Poster Session Foyer Physics

17:00–19:00 Splinter Meetings

AGN	Active Galactic Nuclei	HS4
Euclid	The Euclid space mission	HS2
Exoplanets	Exoplanets	HS1
HiRes	High-Resolution Solar Imaging, Spectroscopy, and Polarimetry – Recent Developments in Science and Instrumentation	Auditorium MPS
Populations	Stellar Populations in and around the Milky Way	HS5

17:00–19:00 Public Outreach Meeting SR17

19:30–22:00 Conference Dinner Foyer MPS

Music: MegaGauss band, Max Planck Institute for Solar System Research

Thursday, 21 September 2017

09:00–10:30 **Plenary Talks** HS1

Chairperson: M.-R. Cioni

09:00 David Sing:
A Panchromatic Comparative View of Exoplanet Atmospheres

09:30 Frank Bertoldi:
CCAT-prime: A fast Sub-millimeter Telescope for Large-area Surveys

10:00 Manami Sasaki:
The hot interstellar medium

10:30–11:00 **Coffee Break & Poster Session** Foyer Physics

11:00–12:30 **Plenary Talks** HS1

Chairperson: R. Bender

11:00 Sandra Jeffers:
Magnetic stars and their elusive planets

11:30 Joris Verbiest:
Probing the Ionised ISM with LOFAR Pulsar Observations

12:00 Oliver Pfuhl:
First Science Results of the GRAVITY interferometer

12:30–14:00 **Lunch Break**

14:00–16:30 Splinter Meetings

Activity	Solar and stellar activity and variability	Auditorium MPS
Education	Astronomy and Education	HS5
eROSITA	eROSITA is Coming! Opportunities to Study Cosmology and Large Scale Structure with X-ray Selected Clusters and AGN	HS4
E-Science	E-Science, E-Infrastructures, and Virtual Observatory (Machines of Discovery)	HS2
HotStars	Hot Stars and Binary Evolution	HS3

16:30–17:00 Coffee Break & Poster Session

Foyer Physics

17:00–19:00 Splinter Meetings

Activity	Solar and stellar activity and variability	Auditorium MPS
Education	Astronomy and Education	HS5
eROSITA	eROSITA is Coming! Opportunities to Study Cosmology and Large Scale Structure with X-ray Selected Clusters and AGN	HS4
HotStars	Hot Stars and Binary Evolution	HS3

19:30–21:00 Public Talk

ZHG009

19:30	Michael Kramer: Wundervolles mysteriöses Universum – eine (Zeit-)Reise
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Friday, 22 September 2017

09:00–10:30	Plenary Talks	HS1
	Chairperson: S. Schuh	
09:00	Benedetta Ciardi: Cosmic reionization and 21 cm observations	
09:30	Thomas Kupfer: The systematic search for gravitational wave sources using synoptic surveys	
10:00	Annalisa Pillepich: IllustrisTNG: the new frontier to understand the co-evolution of dark-matter and galaxies with cosmological simulations of structure formation	
10:30–11:00	Coffee Break & Poster Session	Foyer Physics
11:00–12:30	Plenary Talks	HS1
	Chairperson: J. Wambsganß	
11:00	Matthias Rempel: Realistic MHD simulations of the solar atmosphere	
11:30	Maarit Käpylä: Modeller's view to solar and stellar dynamos: perspectives and challenges	
12:00	Mathieu Ossendrijver: Tracking Jupiter with a Trapezoid: Geometrical Methods in Ancient Babylonian Astronomy	
12:30–12:40	Closing	
12:40–14:00	Lunch Break	
14:00–18:30	Training of Teachers (Lehrerfortbildung)	SR17

Karl-Schwarzschild Lecture

COSMIC MAGNETIC FIELDS

R. Wielebinski¹

¹*Max-Planck-Institut für Radioastronomie, Bonn*

Magnetic fields are omnipresent in the Universe. We know of records by the Chinese or the Greeks in which magnetic effects were discussed. Certainly the navigation of ships in the middle ages depended on the use of the compass. The first experiments with magnets were described by Gilbert in 1600. Johannes Kepler speculated on the magnetic effect that was forcing the movement of the planets. This suggestion was negated by Isaac Newton who developed the gravitational theory. Finally the electromagnetic theory was developed by James Clerk Maxwell that described the action of electric current and magnetic field. Practical devices as the dynamo or electric motor came from this theory.

Peter Zeeman made measurement of magnetic field at a distance by observing the splitting of line emission in a magnetic field. Very soon after the Zeeman Effect was postulated the first measurements of magnetic fields were made by Hale in the Sun in 1908. The discovery of cosmic radio waves by Karl Jansky in 1932 added another method of measuring magnetic fields the cosmic radio waves were due to a non-thermal emission process the action of relativistic particles in magnetic fields. Since this synchrotron emission is polarized the study of the polarization of the cosmic radio waves allows the determination of magnetic fields.

I have become involved in studies of polarization of Galactic radio waves during my PhD studies in Cambridge 1960-1963. The first radio detections of magnetic field in a cosmic object, the Crab nebula, were made in 1957. In the summer of 1962 the first unambiguous detection of the polarization of Galactic radio waves and hence of magnetic fields in the Milky Way were added. The whole year 1962 may be termed a magnetic year. Polarization was detected in radio galaxies, and in supernova remnants. In 1968 pulsars were discovered and showed unusual polarization properties. The elusive radio Zeeman Effect was finally detected in 1968 using the HI line emission in selected Galactic regions. The studies of magnetic fields have started in 1962 and go on to the present day. The 100m radio telescope in Effelsberg played a significant role in this research field.

Ludwig-Biermann Award Talk

THE PHYSICS DRIVING THE MOLECULAR CLOUD LIFECYCLE
DURING GALAXY FORMATION AND EVOLUTION

J. M. Diederik Kruijssen

*Zentrum für Astronomie der Universität Heidelberg, Astronomisches
Rechen-Institut, Mönchhofstraße 12-14, 69120 Heidelberg, Germany*

The cloud-scale physics of star formation and feedback represent the main uncertainty in galaxy formation and evolution studies. In recent years, it has become clear that the ‘star formation relation’ between the gas mass (surface density) and the star formation rate (surface density) depends strongly on the spatial scale. We have shown that this multi-scale nature of the star formation relation is a direct probe of the cloud-scale physics of star formation and feedback. By quantifying the details of this scale dependence, we can directly measure fundamental quantities such as molecular cloud lifetimes, star formation efficiencies, feedback timescales, feedback outflow velocities, feedback coupling efficiencies, and coherence length scales. While these quantities were previously only accessible in the Local Group, it is now possible to measure them across a representative part of the galaxy population, from the nearby Universe out to high redshift ($z > 2$). I will present the first results of the systematic application of this method, showing that the molecular cloud lifecycle exhibits a strong dependence on the galactic environment. Understanding this environmental dependence provides a promising avenue for constraining the physics of star formation and feedback during galaxy formation and evolution.

PhD Prize Talk

LARGE EDDY SIMULATIONS OF COMPRESSIBLE
MAGNETOHYDRODYNAMIC TURBULENCE

P. Grete¹

¹*Michigan State University, Physics & Astronomy, East Lansing, MI, United States*

Compressible magnetohydrodynamic (MHD) turbulence is thought to play an important role in many astrophysical processes. In absence of detailed three-dimensional observations, simulations can partially fill the observational gap in order to help to understand these processes. Unfortunately direct simulations with realistic parameters are often not feasible. Consequently, large eddy simulations (LES) have emerged as a viable alternative. In LES the overall complexity is reduced by simulating only large and intermediate scales directly. The smallest scales, usually referred to as subgrid-scales (SGS), are introduced to the simulation by means of an SGS model.

In this talk, I will present a new nonlinear MHD SGS model that explicitly takes compressibility effects into account. The model includes closures for all SGS terms in MHD: the turbulent Reynolds and Maxwell stresses, and the turbulent electromotive force (EMF). The model is systematically validated both in *a priori* and *a posteriori* tests, and compared to traditional models such as eddy-viscosity and scale-similarity type models.

In the *a priori* tests, we use high-resolution reference data of stationary, homogeneous, isotropic MHD turbulence ranging from the subsonic ($Ms = 0.2$) the supersonic ($Ms = 20$) regime. We compare exact SGS quantities against predictions by the closures. We find that the new nonlinear model outperforms the traditional ones in all tests conducted including the representation of the energy flux along the turbulent cascade.

In the *a posteriori* tests, we perform LES of decaying, supersonic MHD turbulence with all models and evaluate their performance in comparison to simulations without a model (and at higher resolution). We find that the models need to be calculated on a scale larger than the grid scale, e.g. by an explicit filter, to have an influence on the dynamics at all. Furthermore, we show that only the proposed nonlinear closure improves higher-order statistics such as distributions of vorticity and current density, or structure functions.

Instrumentation Prize Talk

“ES GIBT NICHT GUTES, AUSSER MAN TUT ES” - REFLECTIONS ON
PROGRESS IN ASTRONOMICAL INSTRUMENTATIONA. Poglitsch¹¹*Max-Planck-Institut für extraterrestrische Physik, Garching*

Progress in observational astronomy is critically depending on progress in instrumentation and observing techniques. I will share some thoughts (and questions) on how the community could create/maintain conditions which facilitate such developments.

Review

THE HETDEX DARK ENERGY EXPERIMENT

K. Gebhardt

University of Texas, Austin, United States

No abstract available.

Highlight

ACCRETION OUTBURSTS FROM HIGH-MASS YOUNG STELLAR OBJECTS

B. Stecklum¹, A. Caratti o Garatti², R. Garcia Lopez², J. Eislöffel¹, T. P. Ray², A. Sanna³, R. Cesaroni⁴, C. M. Walmsley^{2,4}, R. D. Oudmaijer⁵, W. J. de Wit⁶, L. Moscadelli⁴, J. Greiner⁷, A. Krabbe⁸, C. Fischer⁸, R. Klein⁹ and J. M. Ibañez¹⁰

¹*Thüringer Landessternwarte Tautenburg*

²*Dublin Institute for Advanced Studies*

³*Max-Planck Institut für Radioastronomie, Bonn*

⁴*INAF - Osservatorio Astrofisico di Arcetri*

⁵*School of Physics and Astronomy, University of Leeds*

⁶*ESO, Santiago de Chile*

⁷*Max-Planck Institut für Extraterrestrische Physik, Garching*

⁸*Deutsches SOFIA Institut, Stuttgart*

⁹*NASA Ames Research Center, Moffett Field*

¹⁰*Instituto de Astrofísica de Andalucía, Granada*

The question whether high-mass stars form like their low-mass siblings has been debated for quite some time. Two pathways are considered to produce such stars - disk-mediated accretion and (proto-)stellar mergers. During recent years evidence for circumstellar disks around high-mass young stellar objects (HMYSOs) mounted. Since disk instabilities of low-/intermediate-mass YSOs cause episodic accretion outbursts, similar events are expected for HMYSOs too. In 2015 we discovered the first burst of this kind from S255IR-NIRS3, a $\sim 20M_{\odot}$ HMYSO, which was signaled by flaring of its Class II 6.7 GHz masers. Incidentally, another burst of a HMYSO was detected by submm/mm observations at about the same time. We will summarize the observational findings of these discoveries and their implications for our understanding of massive star formation, the physics and evolution of circumstellar disks as well as the connection between accretion and ejection of matter.

Highlight

SOFIA IN THE ERA OF JWST AND ALMA

Harold W. Yorke

*SOFIA Science Center, NASA Ames Research Center, M/S 232-12, Moffett Field,
CA, USA 94035*

The Stratospheric Observatory For Infrared Astronomy (SOFIA) combines a Hubble-sized telescope with a modified 747SP aircraft. At an altitude of up to 45,000 feet, SOFIA can observe astrophysical phenomena above over 99% of the atmosphere's water vapor. This feature allows access to frequency ranges in the Terahertz regime and mid-infrared wavelengths inaccessible from the ground. The fact that SOFIA generally returns to its home base after every flight allows upgrades and repairs to its instrumentation not possible for space missions. As SOFIA has evolved from a development project into a fully functional observatory, important advances have been made in several areas of topical astrophysical and solar system research: star formation, stellar evolution, astrochemistry, the structure and evolution of the interstellar medium in our Galaxy and external galaxies, astrophysical processes near supermassive black holes, planetary atmospheres, and moons and small bodies in the solar system science. In this talk, rather than giving a general overview of what SOFIA has accomplished in these fields, I will focus on the role and importance of SOFIA in providing unique contributions for understanding these phenomena. Particular emphasis will be placed on current and future capabilities in high resolution spectroscopy in the wavelength range 28 – 320 micron (0.95 – 10.7 THz), thus bridging the gap between JWST and ALMA.

Review

SOLAR MAGNETOCONVECTION OBSERVED WITH GREGOR

Rolf Schlichenmaier

Kiepenheuer Institut für Sonnenphysik, Freiburg

The Sun provides a unique laboratory to study cosmic magnetic fields. With an aperture of 1.5 m, the new solar telescope GREGOR operating in Tenerife is the largest of its kind in Europe. It provides an unprecedented combination of spatial and spectral resolution, and polarimetric sensitivity to investigate the small-scale magnetic fields on the Sun in the photosphere and chromosphere. The nature of the solar atmosphere is governed by energy transport in form of convection and radiation and their coupling with magnetic fields. GREGOR enhances our understanding of the various mechanisms of magneto-convective energy transport which determine a wealth of structures in sunspots, in active regions, and in the surrounding granulation. We will report on a range of topics, including magnetic reconnection in a flare, sunspot magnetic fields in the photosphere and chromosphere, material flows in active regions, and weak magnetism of the very quiet Sun. Imaging data provide details of the solar photosphere at a scale of 60 km on the Sun (0.08 arcsec angular resolution). GREGOR has resolved details smaller than 100 km in sunspot light bridges, which has advanced our understanding of magneto-convection. The excellent magnetic sensitivity in the IR enables the measurement of field strengths down to a few Gauss, unraveling for the first time that even the most quiet areas on the Sun are largely covered with magnetic field.

Highlight

CLASSICAL PULSATORS AS POPULATION TRACERS: A JOURNEY TO
THE FAR SIDE OF THE MILKY WAY

I. Dékány¹, G. Hajdu^{1,2}, E. K. Grebel¹, S. Eyheramendy², F. Elorrieta², M.
Hanke¹, A. Jordán², M. Catelan²

¹*Astronomisches Rechen-Institut, Zentrum für Astronomie der Universität
Heidelberg*

²*Instituto de Astrofísica, Pontificia Universidad Católica de Chile*

Half of our Milky Way galaxy is located in a narrow stripe of the sky along the Galactic Equator, disguised by interstellar dust, which has been hindering efforts to map the far side of the Galaxy with stellar tracers, until now. Deep, time-resolved photometric surveys now enable us to probe these regions using distant pulsating stars.

We have been leveraging near-infrared time-series photometry from the VISTA Variables in the Vía Láctea (VVV) Survey to conduct a deep census of Southern Galactic Cepheids and RR Lyrae stars, accurate standard candles and well-understood population tracers. These valuable beacons enable us to probe the youngest and the oldest stellar populations in the bulge and at the far side of the Galactic disk, toward high-extinction regions which are out of the reach of all other ongoing and future surveys. By complementing the photometry of these objects with kinematical and elemental abundance measurements, we will be in the position to probe the structural and chemodynamical properties of the Milky Way over its complete extension, and infer global properties of the Galaxy such as general symmetry, spiral arm configuration, bulk kinematics, and metallicity distribution.

In my talk, I will present the current status of this collaborative project, and discuss our efforts to tackle the challenges of infrared light-curve classification and distance analysis with a space-varying extinction curve. I will summarize new results based on the deep census of RR Lyrae stars and both classical and type II Cepheids in the 4th Galactic quadrant and toward the inner bulge. I will highlight new insights into the spatial and metallicity distribution of the primordial Galactic bulge and disk populations, the mapping of the space-varying extinction curve toward the inner Galaxy, and probing into distant regions of the thin disk. Finally, I will outline future prospects with the upcoming VVV Extended Survey and the important role of synergies with the OGLE, GLIMPSE, and Gaia surveys.

Highlight

A MUSE VIEW ON GALACTIC GLOBULAR CLUSTERS

S. Kamann¹

¹*Liverpool John Moores University, Astrophysics Research Institute,
United Kingdom*

The study of the dynamics of Galactic globular clusters has always been limited by the relatively low number of stars accessible to velocity measurements. Yet we might just be witnessing the disappearance of this limitation. The combination of precise proper motion measurements and integral-field spectroscopy promises to provide a three-dimensional view of the central dynamics. Meanwhile the outer regions of the clusters can nowadays be thoroughly studied with multi-object spectrographs. These data will give us important insights into some of the open questions in globular cluster research. Do intermediate-mass black holes exist in their centres? Do different populations have different kinematics? How do binary stars influence the cluster evolution?

In my talk, I want to give an overview of our current view of the dynamics of globular clusters and introduce our campaign to learn more about them using the MUSE integral field spectrograph. It allows us to obtain samples of several thousands of stars per cluster and study the cluster kinematics in great detail. Our survey currently includes 25 clusters and I will present the results we obtained on their central dispersion and rotation fields. In addition, for many of the clusters multi-epoch data are already available, opening up the possibility to study binary stars.

Review

A PANCHROMATIC COMPARATIVE VIEW OF EXOPLANET
ATMOSPHERES

D. K. Sing¹, & the Hubble PanCET collaboration

¹*University of Exeter, United Kingdom*

Hubble has played the definitive role in the characterisation of exoplanets and from the first planets available, we have learned that their atmospheres are incredibly diverse. With HST and JWST, a new era of atmospheric studies is opening up, where wide scale comparative planetology is now possible which can provide insight into the underlying physical process through comparative studies. Hubble's full spectroscopic capabilities are now being used to produce the first large-scale, simultaneous UVOIR comparative study of exoplanets with 20 planets ranging from super-Earth to Neptune and Jupiter sized planets. With full UV to infrared wavelength coverage, an entire planet's atmosphere can be probed simultaneously and with sufficient numbers of planets, it will be possible to statistically compare their features with physical parameters. The panchromatic treasury program aims at build a lasting HST legacy, providing the UV and blue-optical exoplanet spectra which will be unavailable to JWST, providing key insights into clouds and mass loss. I will present the latest findings from the ongoing Hubble Treasury program, revisit longstanding and controversial issues with new data, and discuss how JWST will transform the field of exoplanet characterisation.

Highlight

CCAT-PRIME: A FAST SUB-MILLIMETER TELESCOPE FOR
LARGE-AREA SURVEYSFrank Bertoldi¹¹*Argelander-Institut für Astronomie, Universität Bonn*

CCAT-prime is a 6-meter aperture sub-millimeter telescope being constructed on a 5600 meter high and dry site near ALMA by 2021. Its novel optical design delivers a high-throughput and wide-field of view that enables rapid spectral line and multi-wavelength continuum surveys to (i) map local star-forming regions and galaxies in [CI] and mid-J CO, (ii) study the cosmic evolution of dusty star-forming galaxies and resolve the fainter objects responsible for most of the FIR background, (iii) trace the first population of star-forming galaxies through intensity mapping of their [CII] emission, and (iv) put new constraints on cosmology from galaxy cluster Sunyaev-Zel'dovich effect observations. Our German-U.S.-Canadian collaboration welcomes input for the survey designs and on synergies with upcoming missions at other wavelengths, such as eROSITA and Euclid.

Highlight

THE HOT INTERSTELLAR MEDIUM

M. Sasaki¹

¹*Dr. Karl Remeis-Sternwarte, Erlangen Centre for Astroparticle Physics,
Friedrich-Alexander-Universität Erlangen-Nürnberg*

The interstellar medium is heated and ionized by radiation, by stellar winds, and finally, by supernova explosions of massive stars. These processes are often correlated in space and time, generating superbubbles filled with hot thin plasma with sizes of typically 100 – 1000 pc. Supernova remnants and superbubbles can be studied best in soft X-ray line and continuum emission, since the plasma in their interiors is very hot ($10^6 - 10^7$ K), while there are also a few cases in which the emission from non-thermal particles dominates that of the thermal gas. I will present recent results of our studies of the hot interstellar medium in the Milky Way and nearby galaxies. I will discuss the physics of the hot plasma, the evolution and energetics of supernova remnants and superbubbles, and their impact on star formation.

Review

MAGNETIC STARS AND THEIR ELUSIVE PLANETS

S.V.Jeffers¹¹*Georg-August-Universität Göttingen, Institut für Astrophysik*

Exoplanet research is currently driven by the detection of smaller planets, with emphasis on rocky planets in the habitable zones of their host stars. In this review I will describe how we are pushing the planet detection limits by understanding the planetary host star, and by developing the next generation of planet hunting instrumentation. At the high precision required to detect such planets, it is necessary to also understand the host star as commonly observed stellar features can both mask the presence of a planet or indeed lead to a false detection. The next generation of planet hunting instruments will also push this further by building on what we have learnt over the last 22 years since the first exoplanet was confirmed.

Highlight

PROBING THE IONISED ISM WITH LOFAR PULSAR OBSERVATIONS

J.P.W. Verbiest^{1,2}

¹*Fakultät für Physik, Universität Bielefeld*

²*Max-Planck-Institut für Radioastronomie, Bonn*

The free electrons in the ionised component of the interstellar medium interact with radio waves in many, frequency-dependent, ways. The advent of highly sensitive low-frequency radio telescopes like LOFAR (the LOw-Frequency ARray), in Germany operated by the German LOng-Wavelength (GLOW) consortium, allow unprecedentedly precise measurements of this plethora of effects, probing the ionised gas in the ISM across a wide range of scales: from the smallest density variations causing diffractive scintillation to the large-scale clouds probed by dispersion in decade-long pulsar-timing campaigns.

In this talk, we provide an overview of the capabilities of LOFAR to study the ionised ISM and discuss in some detail the various pitfalls that plague this new window on the ISM. We also briefly highlight the relevance of these studies for so-called pulsar-timing array projects aiming to detect gravitational waves from a cosmological population of supermassive black-hole binaries.

Highlight

FIRST SCIENCE RESULTS OF THE GRAVITY INTERFEROMETER

O. Pfuhl¹, F. Eisenhauer¹, G. Perrin², K. Perraut³, C. Straubmeier⁴,
W.Brandner⁵, A. Amorim⁶, and the GRAVITY collaboration

¹ *Max-Planck-Institut für extraterrestrische Physik, 85748 Garching, Germany*

² *LESIA, Observatoire de Paris, PSL Research University, CNRS, Sorbonne Universités, UPMC Univ. Paris 06, Univ. Paris Diderot, Sorbonne Paris Cité, 92195 Meudon Cedex, France*

³ *Univ. Grenoble Alpes, CNRS, IPAG, 38000 Grenoble, France*

⁴ *1. Physikalisches Institut, Universität zu Köln, Zùlpicher Str. 77, 50937 Köln, Germany*

⁵ *Max-Planck-Institut für Astronomie, Königstuhl 17, 69117 Heidelberg, Germany*

⁶ *CENTRA and Universidade de Lisboa - Faculdade de Ciências, Campo Grande, 1749-016 Lisboa, Portugal*

GRAVITY is a recently deployed instrument, which coherently combines the light of the European Southern Observatory (ESO) Very Large Telescope Interferometer. The instrument exploits the tremendous 130 m resolving power and 200 m² collective area of the VLTI. GRAVITY uses a novel design of fiber-fed integrated optics beam combination, high resolution spectroscopy, phase-tracking, laser metrology and dual-beam operation. GRAVITY opens the techniques of phase-referenced imaging and narrow-angle astrometry to optical interferometry.

We present some key science results, which have been obtained during the first year of operation. This includes milli-arcsec scale imaging of the Galactic Center supermassive black hole and its fast orbiting star S2; few μas differential spectro-astrometry of the high mass X-ray binary BP Cru and the active galactic nucleus of PDS 456; high accuracy visibility observations and imaging of the resolved stars ξ Tel and 24 Cap.

GRAVITY has shifted the limits of optical interferometry in terms of sensitivity and accuracy by orders of magnitude. During the commissioning we demonstrated real-time phase stabilisation on stars as faint as $m_K \approx 10$ mag, phase-referenced interferometry of objects as faint as $m_K \approx 18$ mag, visibility accuracies better than 0.25% and a spectro-astrometric precision of better than ten micro-arcseconds (μas). The experimental dual-beam astrometry mode shows residuals as low as 50 μas when following objects over several months. The demonstrated performance represents a game-changer in optical interferometry, which leads to exciting new science prospects.

Public Talk

WUNDERVOLLES MYSTERIÖSES UNIVERSUM - EINE (ZEIT-)REISE

M. Kramer

Max-Planck-Institut für Radioastronomie, Bonn

Das Universum ist 13,8 Milliarden Jahr alt. Egal mit welchen Teleskopen wir es beobachten, es ist wunderschön und faszinierend. Obwohl wir gerade in den letzten 100 Jahren viel von dessen Eigenschaften und Entwicklung gelernt haben, bleibt das Universum weiterhin mysteriös und birgt noch viele Geheimnisse. Warum sieht es so aus, wie wir es beobachten, und warum gerade jetzt? Was sind Dunkle Materie und Dunkle Energie? Gibt es Leben außerhalb der Erde und ist es intelligent? Hatte Einstein mit seiner allgemeinen Relativitätstheorie recht, oder gibt es Bausteine im Weltbild der Fundamentalphysik, die wir noch nicht verstehen oder gar kennen? Mit mehr Verständnis kommen auch mehr Fragen, die aber um so faszinierender sind. Trotz – oder gerade wegen – immer neueren und besseren Instrumenten entdecken wir neue Phänomene und Details. Der Vortrag versucht(!), die großen unbeantworteten Fragen der Astrophysik zu beschreiben und in Verbindung zu setzen.

Review

COSMIC REIONIZATION AND 21CM OBSERVATIONS

B. Ciardi¹¹*Max-Planck-Institut für Astrophysik, Garching*

The reionization of the intergalactic medium represents a major phase transition undergone by our Universe. In this talk I will discuss our theoretical understanding of the process, together with current observational constraints and the progress expected with measurements of the 21cm line from high redshift neutral hydrogen with instruments like LOFAR and SKA.

Highlight

THE SYSTEMATIC SEARCH FOR GRAVITATIONAL WAVE SOURCES
USING SYNOPTIC SURVEYST. Kupfer¹ on behalf of the PTF/ZTF collaboration*¹Division of Physics, Mathematics and Astronomy, California Institute of
Technology, Pasadena, CA 91125, USA*

Ultracompact binaries (UCB) are a rare class of binary systems with periods below 60 min (detached or semidetached), consisting of a neutron star (NS)/white dwarf (WD) primary and a He-star/WD/NS secondary. The study of ultracompact binaries and their subsequent mergers are important to our understanding of such diverse areas as supernova Ia progenitors, production of r-process elements, binary evolution and they are predicted to be the strong gravitational wave sources in the eLISA and LIGO-Virgo band.

The Zwicky Transient Facility is the next generation of optical synoptic surveys utilizing the entire focal plane of 47 deg² of the 1.2m telescope on Mount Palomar. The field-of-view allows us to cover the entire visible sky in one night revisiting fields on timescales of a few hours and providing hundreds of visits per field each year. Part of the survey will be a public 3-4 night cadence all sky survey as well as a nightly sweep of the Galactic Plane. Science operations is expected to start by the end of 2017.

In this talk I will give an overview of the survey design and our effort to identify the optical counterpart to NS mergers triggered by LIGO. I am lead investigator of an approved high-cadence survey covering the full inner Plane visible from the northern hemisphere as part of ZTF. We will obtain 2-3 hr continuous lightcurves of each field with a cadence of 40 sec starting winter 2017 to identify the Galactic population of ultracompact binaries. I will give an overview of the survey as well as discuss the expected numbers of ultracompact eLISA sources from this survey.

Highlight

ILLUSTRISTNG: THE NEW FRONTIER TO UNDERSTAND THE
CO-EVOLUTION OF DARK-MATTER AND GALAXIES WITH
COSMOLOGICAL SIMULATIONS OF STRUCTURE FORMATIONA. Pillepich¹ and the IllustrisTNG team²¹*Max-Planck-Institut für Astronomie, Königstuhl 17, 69117 Heidelberg, Germany*²*www.tng-project.org*

I will describe the numerical efforts to simulate galaxies with the code AREPO across an unprecedented range of halo masses, environments, evolutionary stages and cosmic times. In particular, I will focus on the IllustrisTNG project (www.tng-project.org), a collaboration among Heidelberg, Munich, New York and Boston. There we are aiming to simulate a series of three gravity+magnetohydrodynamics cosmological volumes (50, 100, 300 Mpc a side, respectively) capable of both resolving the inner structures of galaxies as small as the classical dwarfs of the Milky Way, as well as of sampling the large scale structure of the Universe with thousands among groups and clusters of galaxies. I will briefly review what is explicitly and empirically solved in gravity+magnetohydrodynamics simulations for galaxy formation in a cosmological context and what is required and what it means to “successfully” reproduce populations of galaxies which resemble the real ones. I will therefore show preliminary results from the IllustrisTNG simulations, by focusing on the assembly of the most massive structures in the Universe, the build up and characterisation of the faint stellar envelopes around galaxies, the connections of the latter to their host DM haloes, and our theoretical expectations for the distribution of dark matter (DM) and stars on large scales and within galaxies.

Review

REALISTIC MHD SIMULATIONS OF THE SOLAR ATMOSPHERE

M. Rempel¹

¹*High Altitude Observatory, National Center for Atmospheric Research,
United States*

Realistic simulations of the solar photosphere date back almost three decades. While the physical ingredients in terms of compressible MHD, a realistic equation of state and 3D radiative transfer have remained mostly unchanged, tremendous progress since then can be mostly attributed to an about million-fold increase of computing power in combination with improvements in code efficiency and robustness. Today about a handful of mostly independent codes are in use in the solar physics community and high resolution simulations have contributed significantly to almost all aspects of photospheric magnetoconvection. In this talk I will give a brief overview of recent developments and focus in particular on: (1) Small-scale dynamo simulations that provide an explanation of quiet sun magnetism, (2) Magneto-convective sunspot models that give a consistent picture of sunspot fine structure from umbral dots to penumbral filaments and light bridges, and (3) Models of flux emergence on scales of active regions that demonstrate the amplification of emerging flux to pores and sunspots including structures such as complex light bridges and penumbrae.

Highlight

MODELLER'S VIEW TO SOLAR AND STELLAR DYNAMOS:
PERSPECTIVES AND CHALLENGES

M. J. Käpylä¹

¹*Max-Planck-Institut für Sonnensystemforschung, Göttingen*

Thanks to the steadily increasing computational resources, global convection simulations of stars of various types are becoming abundant. Even though these models still are - and will to some extent always be - only toy models of the real objects, they provide us very useful information, if properly exploited. The challenge is to be able to meaningfully analyse the massive data and develop tools with which one is able to establish which physical effect is responsible for a certain phenomenon emerging in the models - also those arising from turbulent effects, posing the greatest challenges.

Highlights of recent modelling efforts include the emergence of solar-like dynamo solutions without a tachocline shear layer, dynamo solutions with multiple cycles of different lengths and spatial distributions, models that spontaneously generate irregular behavior and grand-minima type epochs, and the established transition from axisymmetric to non-axisymmetric modes as the rotation rate is increased. In this talk, these novel findings are reviewed, and their implications for observations are discussed.

Highlight

TRACKING JUPITER WITH A TRAPEZOID: GEOMETRICAL METHODS
IN ANCIENT BABYLONIAN ASTRONOMY

M. Ossendrijver^{1,2}

¹*Institut für Philosophie, Humboldt-Universität zu Berlin, Unter den Linden 6,
10099 Berlin*

²*Excellence Cluster TOPOI, Hannoversche Straße 6, 10115 Berlin*

On four Babylonian clay tablets written between 350 and 50 BCE, the distance travelled by Jupiter along the ecliptic is computed as the area of a figure in time-velocity space (2016, *Science* 351, 482–484). This figure, which has the form of a trapezoid, describes Jupiter’s changing velocity for an interval of 60 days, while its area yields the total distance covered during that time. On these tablets the moment when Jupiter has covered half the total distance is also computed geometrically by partitioning the trapezoid into two smaller ones of equal area. These findings challenge the widely accepted view that Babylonian astronomers only used arithmetical methods, unlike their ancient Greek colleagues. However, the geometrical approach to motion attested in the Babylonian tablets is unknown from ancient Greek astronomy and was previously thought to have been invented by European scholars in the 14th century AD.

Splinter Meetings

Splinter meetings will be held in parallel on Tuesday to Thursday afternoons.

Activity – Solar and stellar activity and variability

Convenors: H. Peter (MPS Göttingen), M. Käpylä (MPS Göttingen), P. Käpylä (AIP Potsdam), N. Krivova (MPS Göttingen), A. Reiners (Universität Göttingen), S. Shapiro (MPS Göttingen), J. Warnecke (MPS Göttingen)

Thursday, 21 September 2017

Auditorium MPS

Generation of magnetic field: the dynamo

- 14:00–14:30 Jörn Warnecke:
Dynamo mechanism for magnetic activity and cycles of stars
- 14:30–14:45 Mariangela Viviani:
Axi- to non-axisymmetric dynamo transition in stellar models with varying rotation rate

Signatures and variability of magnetic activity at the surface and chromosphere

- 14:45–15:15 Emre Isik:
Search for physical mechanisms underlying solar and stellar activity variations
- 15:15–15:30 Oleksii Kuzmychov:
Strong surface magnetic field on a brown dwarf
- 15:30–15:45 Charlotte Norris:
Spectral variability of photospheric radiation due to small-scale magnetic features
- 15:45–15:55 Veronika Witzke:
Effect of Metallicity on Stellar Brightness Variability

- 15:55–16:10 Theodosios Chatzistergos:
Connecting chromospheric emission to photospheric magnetic field
- 16:10–16:20 Hongrui Wang:
Measurements of Total Solar Irradiance on FengYun-3 Satellites, from 2008 to 2017
- 16:20–16:30 Discussion and 2-min advertisement of poster Patrick Schöfer:
Chromospheric Activity Indicators in Visible Light and Near Infrared

16:30–17:00 Coffee Break & Poster Session

Signatures and variability of magnetic activity at the surface and chromosphere (cont.)

- 17:00–17:15 Chi Ju Wu:
Solar Irradiance Reconstruction over Holocene: A Consistent Multi-proxy Reconstruction
- 17:15–17:30 Eliana Maritza Amazo-Gomez:
GPS: A novel method to obtain stellar rotational periods
- 17:30–17:45 Timo Reinhold:
Evidence for photometric activity cycles in 3203 Kepler stars

X-ray emission from hot plasma and variability

- 17:45–18:15 Stefan Czesla:
X-ray emission and activity in late-type stars
- 18:15–18:30 Nina-Elisabeth Nemec:
The XUV Sun in Time
- 18:30–18:45 Hardi Peter:
Scaling MHD models of solar active regions to more active stars
- 18:45–19:00 Discussion

AGN – Active Galactic Nuclei

Organizers: Wolfram Kollatschny (Universität Göttingen), Martin Haas (RU Bochum), Helmut Meusinger (TLS Tautenburg), Michael Ramolla (RU Bochum), Matthias Zetzl (Universität Göttingen)

Wednesday, 20 September 2017

HS4

- 14:00–14:30 Shai Kaspi:
Reverberation Mapping of the Most High Luminosity Quasars
- 14:30–14:45 Helmut Meusinger:
Variability timescales of QSOs from the Tautenburg long-term monitoring program
- 14:45–15:05 Francisco Pozo Nunez:
Optical Photometric Monitoring of Active Galactic Nuclei at Wise Observatory
- 15:05–15:15 Matthias Zetzl:
Line profile variations in the changing look AGN HE 1136-2304
- 15:15–15:25 Catalina Sobrino-Figaredo:
IC4329A: a red Seyfert-1 nucleus in an edge-on host galaxy
- 15:25–15:55 Doron Chelouche:
On the Origin of Optical Time Delays in AGN
- 15:55–16:15 Ewald Puchwein:
The role of AGN in cosmic reionization
- 16:15–16:30 Frank Rieger:
The non-thermal astrophysics of relativistic AGN jets
- 16:30–17:00 Coffee Break & Poster Session**

- 17:00–17:20 Victor Marian:
Testing the connection between major mergers and the triggering of high-accretion black holes
- 17:20–17:35 Zohreh Ghaffari:
Galaxy overdensities around 3C radio galaxies and quasars at $1 < z < 2.5$ revealed by Spitzer 3.6/4.5 μm and Pan-STARRS
- 17:35–17:55 Eleni Vardoulaki:
FR-type radio sources in COSMOS: relation to size, accretion modes and large-scale environment
- 17:55–18:15 Jan-Torge Schindler:
The Extremely Luminous Quasars Survey (ELQS) in SDSS
- 18:15–18:35 Silke Britzen:
OJ287 – Deciphering the Rosetta stone of blazars
- 18:35–18:55 Claus Lämmerzahl:
Accretion disks in space-times of compact objects with mass quadrupole

CCAT – CCAT-prime: new submillimeter science opportunities

Organizers: Peter Schilke, Jürgen Stutzki (Universität zu Köln), Frank Bertoldi (Universität Bonn)

Tuesday, 19 September 2017

Auditorium MPS

- 14:00–14:15 F. Bertoldi:
CCAT-prime project overview
- 14:15–14:35 J. Stutzki:
CCAT-p first light instrumentation
- 14:35–14:55 R. Simon:
CCAT-p: The Galactic ECology (GEco) Project
- 14:55–15:15 B. Magnelli:
High-redshift galaxy surveys with CCAT-p
- 15:15–15:30 Break**
- 15:30–15:50 D. Riechers:
Tomography of Cosmic Reionization Through [CII] Intensity Mapping at Redshifts 5–9 with CCAT-p
- 15:50–16:05 K. Basu:
Cluster cosmology with CCAT-p
- 16:05–16:20 J. Erler:
Observations of the relativistic SZ effect: from Planck to CCAT-p

Computation – Computational Astrophysics

Convenors: Rolf Kuiper (Universität Tübingen), Hubert Klahr (MPIA), Wilhelm Kley (Universität Tübingen)

Tuesday, 19 September 2017 HS3

- 14:00–14:25 Klaus Dolag:
Magneticum: The largest cosmological hydrodynamical simulations
- 14:30–14:55 Thomas Guillet:
Towards Fast High-Order Magnetohydrodynamics in the AREPO Code
- 15:00–15:25 Ewald Puchwein:
Forming (more) realistic galaxy clusters in simulations
- 15:30–15:55 Daniele Sorini:
Constraining Feedback Prescriptions with Ly α Absorption
- 16:00–16:25 Robert Brauer:
Line and continuum radiative transfer simulations: From magnetic fields to polarization

Wednesday, 20 September 2017 HS3

- 14:00–14:25 Wolfram Schmidt:
Simulations of merging cool-core clusters
- 14:30–14:55 Anusha Bhasari:
Non-equilibrium energy balance in the solar chromosphere
- 15:00–15:25 Christoph Schäfer:
A Smooth Particle Hydrodynamics Code to Model Collisions Between Solid, Self-Gravitating Objects
- 15:30–15:55 Johannes Wicht:
Simulating the Jupiter’s interior dynamics

E-Science – E-Science, E-Infrastructures, and Virtual Observatory (Machines of Discovery)

Organizers: Enke (AIP Potsdam), Polsterer (HITS gGmbH), Wambsgans (Universität Heidelberg)

Tuesday, 19 September 2017 HS2

- 14:00–14:20 Kai Polsterer:
Reproducibility in Era of Data Driven Science
- 14:20–14:40 Jochen Klar:
5 years of Daiquiri – Lessons learned and further developments
- 14:40–15:00 Klaus Dolag:
A web portal for hydrodynamical, cosmological simulations
- 15:00–15:20 Markus Demleitner:
Publishing Solar System Data using EPN-TAP and DaCHS
- 15:20–15:40 Ole Streicher:
Licensing of Open Source projects
- 15:40–16:00 Christian Dersch:
Fedora Astronomy – Integration of astronomical software into a Linux distribution
- 16:00–16:20 Antonio D’Isanto:
Probabilistic photometric redshift derivation from multi-band imaging data
- 16:25–16:30 Poster-Intro Milan Spasovic:
A study of photometric errors on two different photographic plate scans

Thursday, 21 September 2017 HS2

- 14:00–16:30 Authors of the Whitepaper, RDS-Members, NN:
Discussion Denkschrift and Whitepaper
Role of E-Science in the next Decade

Education – Astronomy and Education

Organizers: Bildungsausschuss der Astronomischen Gesellschaft

Contact: Oliver Schwarz (Universität Siegen)

Thursday, 21 September 2017

HS5

- 14:00–14:20 Lenka Bzduskova:
Structure-forming phenomena in the universe and simple applications at school
- 14:20–14:40 Sascha Hohmann:
Stable Atmospheres inside and outside the Solar System
- 14:40–15:00 Oliver Schwarz:
The Michelson-Morley Experiment in a proper representation
- 15:00–15:20 Alexander Küpper:
The need for astronomical contexts in inclusive Physics classes
- 15:20–15:40 Alexander Küpper:
‘With light through our solar system and beyond’ – an astronomical learning conception for inclusive teaching of Physics
- 15:40–16:00 Martin Quast:
White dwarfs as school topic
- 16:00–16:20 Hans-Otto Carmesin:
Climate Change: Discoveries in Physics Lessons
- 16:30–17:00 Coffee Break & Poster Session**
- 17:00–17:20 Hans-Otto Carmesin:
Quantum Gravity: Discoveries about the early Universe including big bang, big bounce and a critical discussion of these

- 17:20–17:40 Simon Kraus:
The Pitfalls of Determining Time and Location
- 17:40–18:00 Michael Geffert:
A research project for students from schools based on
variable stars
- 18:00–18:20 Norbert Junkes:
Das Radioteleskop Effelsberg – Ein neues Falblatt
zum Einsatz bei Vorträgen im Besucherpavillon des
Radioteleskops
- 18:20–18:40 Catharina Rogge:
Planung und Durchführung einer astrophysikalischen
Projektwoche für die Oberstufe

eROSITA – eROSITA is Coming! Opportunities to Study Cosmology and Large Scale Structure with X-ray Selected Clusters and AGN

Organizers: A. Finoguenov, A. Merloni (MPE Garching), J. Mohr (LMU München), T. Reiprich (Universität Bonn)

List of submitted contributions (Confirmation of program and schedule by the splinter organizers pending):

Thursday, 21 September 2017

HS4

Klaus Dolag:

Galaxy Clusters from the Magneticum Simulations

Sebastian Grandis:

Forecasting Impact of DES Weak Lensing Mass Calibration on eROSITA Cluster Cosmology Constraints

Matthias Klein:

The multi-component matched filter cluster confirmation tool (MCMF)

Andrea Merloni:

eROSITA on SRG: an overview

Andrea Merloni:

Understanding AGN evolution with large X-ray surveys: prospects for eROSITA

Joseph Mohr:

Sunyaev-Zel'dovich Effect Galaxy Cluster Cosmology and Implications for eROSITA

Aarti Nagarajan:

Weak-lensing mass calibration of the Sunyaev-Zel'dovich effect using APEX-SZ galaxy clusters

Florian Pacaud:

Galaxy clusters as cosmological probes: from observations to parameter constraints

Annalisa Pillepich:

The X-ra cluster survey with eROSITA: constraints on dark-energy

Miriam Elizabeth Ramos-Ceja:

Synthetic simulations of the extragalactic sky seen by eROSITA: pre-launch selection functions and cosmological forecasts

Thomas Reiprich:

Results from current X-ray selected galaxy cluster samples and way forward to eROSITA cosmology

Tim Schrabback:

Calibrating the masses of high-redshift galaxy clusters with deep weak lensing data

16:30–17:00 Coffee Break & Poster Session

Euclid – The Euclid space mission

Organizers: Tim Schrabback (Universität Bonn), Knud Jahnke (MPIA Heidelberg)

Wednesday, 20 September 2017

HS2

- 14:00–14:15 Knud Jahnke:
The Euclid Dark Universe Mission, an introduction
- 14:15–14:30 Frank Grupp:
The EUCLID NISP instrument status
- 14:30–14:45 Gregor Seidel:
How to forecast a Euclid sky: simulating the Euclid telescope
- 14:45–15:00 Ariel Sanchez :
Euclid galaxy clustering analysis: Overview
- 15:00–15:15 Tim Schrabback:
Weak lensing science with Euclid: An overview
- 15:15–15:30 Joseph Mohr:
Legacy Science with the Euclid Dataset
- 15:30–15:45 Jochen Weller:
Cosmology with Galaxy Cluster with Euclid
- 15:45–16:00 Luca Amendola:
The Euclid Theory Working Group
- 16:00–16:15 Holger Israel:
Preparing Dark Energy Survey imaging for Euclid:
Overview & Activities of Organizational Unit External Data (OU-EXT) Germany
- 16:15–16:30 Martin Kümmel:
OU-MER Status
- 16:30–17:00 Coffee Break & Poster Session**

- 17:00–17:15 Maximilian Fabricius:
The German Euclid Science Data Center & Scientific
Challenge 3
- 17:15–17:30 Malte Tewes:
Weak-lensing shear measurement with machine learn-
ing
- 17:30–17:45 Stefan Hilbert:
How Accurate are Gravitational Lensing Simulations?
- 17:45–18:00 Fabian Schmidt:
Responses: a novel approach to the covariance of the
matter power spectrum
- 18:00–18:15 Franz Elsner:
Reconstructing cosmological initial conditions using
Bayesian statistics
- 18:15–18:30 Klaus Dolag:
The Magneticum Simulations
- 18:30–19:00 Discussions

Exoplanets – Exoplanets

Organizers: Sandra Jeffers (Universität Göttingen), Alexander Krivov (Universität Jena), Heike Rauer (DLR Berlin), Ansgar Reiners (Universität Göttingen)

Wednesday, 20 September 2017

HS1

- 14:00–14:05 Sandra Jeffers:
Welcome and introduction
- 14:05–14:40 Heike Rauer:
SPP1992: Exploring the Diversity of Extrasolar Planets
- 14:40–15:00 Ansgar Reiners:
Blue Planets around Red Stars – DFG Research Unit about the CARMENES Search for Exoplanets
- 15:00–15:20 Trifon Trifonov:
First results from CARMENES visual-channel radial-velocity measurements
- 15:20–15:50 Alexis Smith:
An Earth-sized planet transiting an M-dwarf in a 4.3-hour orbit
- 15:40–16:00 Matthias Mallonn:
The optical slope in exoplanet spectra and a host star variability survey
- 16:00–16:20 Mahmoudreza Oshagh:
Detecting the variation of measured spin-orbit angles of exoplanet due to the stellar activity
- 16:30–17:00 Coffee Break & Poster Session
- 17:00–17:20 Ronald Redmer:
Matter Under Planetary Interior Conditions
- 17:20–17:40 Alexander Krivov:
Debris Disks in Planetary Systems

- 17:40–18:00 Vera Wolthoff:
Evolution of Planetary Systems on the Giant Branch
- 18:00–18:20 Sebastian Kohl:
A search for bow shocks around hot gaseous planets
- 18:20–18:40 Mark Booth:
ALMA Observations of Planetary Systems
- 18:40–19:00 Florian Kirchschrager:
Constraints on the structure of hot exozodiacal dust
belts and their observability in the MIR

HiRes – High-Resolution Solar Imaging, Spectroscopy, and Polarimetry - Recent Developments in Science and Instrumentation

Convenors: Andreas Lagg (MPS Göttingen), Nazaret Bello Gonzalez (KIS Freiburg), Meetu Verma (AIP Potsdam), Rolf Schlichenmaier (KIS Freiburg), Horst Balthasar (AIP Potsdam)

Wednesday, 20 September 2017

Auditorium MPS

- 14:00–14:15 Iker Requerey:
Magnetic vortex flow at a supergranular vertex
- 14:15–14:30 Adalbert Ding:
Doppler Spectroscopy of the Solar Corona: Detection of Cool Prominence Material Embedded in a Hot Fe XIV Plasma Environment within a Fast Moving CME-Front
- 14:30–14:45 Andrea Diercke:
Multi-wavelength observations of an arch filament system
- 14:45–15:00 Anjali Kaithakkal:
Small-scale Flux Cancellations Observed with Sunrise II/IMaX
- 15:00–15:15 Ricardo Gafeira:
Small scale chromospheric fibrils observed by SUNRISE 2
- 15:15–15:30 Meetu Verma:
High-resolution imaging and near-infrared spectroscopy of penumbral decay
- 15:30–15:45 Narayanamurthy Smitha:
Probing the photospheric magnetic field with new spectral line pairs

- 15:45–16:00 Fatima Kahil:
Brightness of solar magnetic elements as a function of magnetic flux at high spatial resolution
- 16:00–16:15 Ivan Milic:
Spectropolarimetric inversions using spectral lines formed in non-local thermodynamic equilibrium
- 16:15–16:30 Michiel van Noort:
Image restoration of solar slit spectra
- 16:30–17:00 Coffee Break & Poster Session**
- 17:00–17:15 Tino Riethmüller:
The potential of many-line inversions of photospheric spectropolarimetric data in the visible and near UV
- 17:15–17:30 Nazaret Bello González:
The new understanding of penumbral formation
- 17:30–17:45 Sebastian Hoch:
Dynamic fine-structure in magnetic processes in the solar photosphere
- 17:45–18:00 Rolf Schlichenmaier:
The Jurčák criterion: Magnetic property of boundaries in pores, proto-spots, and umbrae
- 18:00–18:15 Franziska Zeuner:
Fast dual-beam spectropolarimetry – first results on scattering polarization measurements with FSP II at the DST
- 18:15–18:30 Nazaret Bello González:
VTF: a visible tunable filter for the DKIST
- 18:30–18:45 Kinga Albert:
Autonomous data reduction for the space-borne spectropolarimeter PHI
- 18:45–19:00 Carsten Denker:
High-resolution Fast Imager (HiFI): Image Quality and Image Restoration

HotStars – Hot Stars and Binary Evolution

Organizers: Andreas Sander (Universität Potsdam), Kerstin Weis (RU Bochum),
Veronika Schaffenroth (Universität Tübingen)

Thursday, 21 September 2017

HS3

- | | |
|--------------------|--|
| 14:00–14:05 | Welcome |
| 14:05–14:23 | Andreas Sander:
Modeling hot star atmospheres: Challenges, applica-
tions, and the next generation |
| 14:23–14:41 | Rainer Hainich:
Massive binary stars with relativistic companions:
Studying donor winds with the HST |
| 14:41–14:59 | Martin Quast:
Mass transfer evolution in high mass X-ray binaries |
| 14:59–15:17 | David Gruner:
An in-depth look into the earliest O-type Galactic bi-
nary, HD 93129A |
| 15:17–15:35 | Tomer Shenar:
Magnetic stars as a laboratory for constraining the
weak-wind problem in massive stars |
| 15:35–15:53 | Denny Hoyer:
The giant-dwarf connection |
| 15:53–16:11 | Lisa Löbbling:
Spectral Analysis of the hybrid PG 1159-type Central
Stars of the Planetary Nebulae Abell 43 and NGC 7094 |
| 16:11–16:29 | Helge Todt:
The Born-again Planetary Nebulae Abell 30 and Abell
78 |
| 16:30–17:00 | Coffee Break & Poster Session |

- 17:00–17:02 Poster advertisement Conny Glaser:
Stellar Laboratories: High-precision Atomic Physics
with STIS
- 17:02–17:04 Poster advertisement Michael Knörzer:
The enigma of the missing flux in the hot, helium-rich
white dwarf RE 0503-289
- 17:04–17:06 Poster advertisement Tomer Shenar:
The formation of the observed Wolf-Rayet stars in the
Magellanic Clouds is not dominated by mass transfer
in binaries
- 17:07–17:25 Stephan Geier:
The catalog of hot subdwarf stars
- 17:25–17:43 Thomas Kupfer:
The population of ultracompact hot subdwarf binaries
- 17:43–18:01 Veronika Schaffenroth:
News from the EREBOS project
- 18:01–18:19 Felix Mackebrandt:
The stellar pulsation timing method to detect substel-
lar companions
- 18:19–18:37 Sonja Schuh:
The O-C diagram of V391 Peg revisited: planet or not?
- 18:37–18:55 Marilyn Latour:
Spectral analysis of four very similar hot hydrogen-rich
subdwarf O stars

Non-Thermal – Surveying the non-thermal Universe

Organizers: Dominik Elsässer (TU Dortmund), Marcus Brüggen (Universität Hamburg), Matthias Hoeft (TLS Tautenburg), Karl Mannheim (Universität Würzburg)

Tuesday, 19 September 2017

HS4

- | | |
|-------------|---|
| 14:00–14:30 | Marilyn Cruces:
The High Time Resolution Universe Survey For Pulsars |
| 14:30–15:00 | Klaus Dolag:
Magnetic Fields in Galaxy Clusters and beyond |
| 15:00–15:30 | Jakob Gelszinnis:
Merging galaxy clusters in radio surveys |
| 15:30–16:00 | Leon Houben:
Semi-simultaneous detections of single pulses in the radio regime with Effelsberg and Lofar |

Plasma – Space Plasma Processes in Stellar and Planetary Environments

Convenors: Thomas Wiegmann (MPS Göttingen), Joachim Saur (Universität zu Köln)

Tuesday, 19 September 2017

D+E+F MPS

- | | |
|-------------|--|
| 14:00–14:05 | Wiegmann, Saur:
Welcome |
| 14:05–14:35 | Horst Fichtner:
The Structure of the Heliosphere and Astrospheres:
Measurements and Simulations |
| 14:35–14:50 | Suzana S. A. Silva:
Temperature evolution of solar atmosphere for a non-
local heat flux |
| 14:50–15:05 | Iulia Chifu:
Global coronal magnetic field modeling using stereo-
scopic constrains |
| 15:05–15:20 | Radoslav Bucik:
Origins of 3He-Rich Solar Energetic Particles |
| 15:20–15:50 | Elias Roussos:
Saturn’s radiation belts: a comprehensive view after
the end of the Cassini mission |
| 15:50–16:05 | Joachim Saur:
Wave particle interaction in Jupiter’s magnetosphere:
Comparison with JUNO observations of Jupiter’s au-
rora |
| 16:05–16:20 | Christian Fischer:
Electromagnetic star-planet-interaction at
TRAPPIST-1 |

Populations – Stellar Populations in and around the Milky Way

Convenors: S. Kamann (Liverpool University), E. K. Grebel (ARI Heidelberg), M. Hilker (Garching), E. Starkenburg (AIP Potsdam), S. Dreizler (Universität Göttingen), T.-O. Husser (Universität Göttingen)

Tuesday, 19 September 2017 HS5

- 14:00–14:29 Stefan Jordan:
The Gaia Mission – Overview, First Results, and future prospects
- 14:29–14:58 Andreas Koch:
Stellar populations in the bulge – from no-resolution to high-resolution
- 14:58–15:16 Anke Arentsen:
Uncovering metal-poor stars in the Galactic bulge with the Pristine survey
- 15:16–15:45 Roelof de Jong:
4MOST – The facility to spectrally explore Stellar Populations in and around the Milky Way
- 15:45–16:14 Tim-Oliver Husser:
MUSE – The Discovery Machine
- 16:14–16:30 Fabian Göttgens:
Search for emission line objects in Galactic globular clusters

Wednesday, 20 September 2017 HS5

- 14:00–14:18 Marilyn Latour:
Spectroscopic insights on the extreme horizontal branch population of omega Centauri

- 14:18–14:36 Steven Hämmerich:
MUSE spectroscopy of Horizontal Branch stars in
omega Cen and NGC 6752
- 14:36–14:54 Benjamin Giesers:
Binary stars in Galactic globular clusters
- 14:54–15:24 Maria-Rosa Cioni:
The Magellanic Clouds
- 15:24–15:42 Dalal El-Youssoufi:
Morphology and Spatial distribution of Stellar Popu-
lations in the Magellanic Clouds from the VMC survey
- 15:42–16:00 Varsha Ramachandran:
Stellar population of the superbubble N 206 in the
LMC
- 16:00–16:30 Lex Kaper:
E-ELT/MOSAIC: Exploring massive star populations
in the Local Group and beyond
- 16:30–17:00 Coffee Break & Poster Session**
- 17:00–17:20 Tomer Shenar:
The Wolf-Rayet population in the Magellanic Clouds
and implications on star formation
- 17:20–17:40 Martin Roth:
Spectacular details of resolved stellar populations in
NGC300 revealed through the combination of ACS
with MUSE
- 17:40–18:10 Bertrand Lemasle:
Abundance gradients in the Milky Way disk
- 18:10–18:30 Guillaume Guiglion:
The AMBRE Project: r-process element abundances
in the Milky Way thin and thick discs
- 18:30–19:00 Ulrich Heber:
Hypervelocity stars

Satellite Events

Several additional events are taking place during and around the conference. Here is a list of those events with additional information.

AG Members Meeting

The members meeting of the German Astronomical Society will take place on Tuesday evening, starting at 17.00 in the auditorium at the MPS. This is a closed session in which all members of the AG can participate.

Astro-Frauen-Netzwerk Get-together

The Astro-Frauen-Netzwerk Get-together will take place on Monday afternoon, starting at 16:00 in seminar rooms A+B+C at the MPS and on Wednesday during the lunch break at 12:40 in the seminar room SR17 of the Institute for Astrophysics (physics building, F wing, 5th floor or, weather permitting on the terrace just next to the seminar room).

Young Astrophysicists Meeting

The Young Astrophysicists Meeting will take place on Monday afternoon, starting at 13:00 in seminar rooms A+B+C at the MPS.

Meeting Rat Deutscher Sternwarten

The Rat Deutscher Sternwarten meets on Monday, starting at 13:00 in the auditorium at the MPS. This is a closed session.

Public Outreach in Astronomy

The Public Outreach in Astronomy meeting will take place on Wednesday afternoon, starting at 14:00 in the seminar room SR17 of the Institute for Astrophysics. The goal of this workshop is to improve communication, facilitate networking, and to share best-practice examples in the German astronomy outreach community. The meeting will be held in German.

History of Astronomy

The Working Group History of Astronomy Meeting starts on Sunday, 17 September with guided tours and a dinner. A scientific colloquium will be held on Monday in the Historical Observatory (Geismarlandstr. 11, 37083 Göttingen). Please see also the website of the meeting for additional information and registration requirements.

Kolloquium des Arbeitskreises Astronomiegeschichte in der Astronomischen Gesellschaft

**Colloquium of the Working Group History of Astronomy
in the Astronomical Society (in German)**

Astronomie und Astrologie im Kontext von Religionen

Montag, 18. September 2017

Historische Sternwarte

08:15–09:00 **Registration / Anmeldung**

09:00–09:10 Eröffnung

Eröffnungsreferate

09:10–09:55 Prof. Dr. Christoph Meinel (Universität Regensburg):
Melanchthons semiologische Astrologie

09:55–10:40 Prof. Dr. Fritz Krafft (Philipps-Universität Marburg):
Überkonfessionelle christliche Glaubensinhalte als Begleiter
Johannes Keplers auf dem Weg zu einer neuen
Astronomie und Astrologie

10:40–11:10 **Kaffepause**

11:10–11:35 Marta Quatralé, PhD cand. (Berlin):
"Ideo sperandum est eum abbreviatum tempus."
Some remarks on (pseudo)science and apocalyptic
claims in Luther's ambiguous position concerning the
computation of the End of the Time

11:35–12:00 Dipl.-Math. Harald Gropp (Heidelberg):
Die Angst der Astrologen vor der Reformation und der
Theologen vor der Sintflut

- 12:00–12:25 Prof. Dr. Reinhard Folk (Linz, Österreich):
... die vier größte Wunderwerck GOTtes ... Himmel/
Erdt/ die Zeit und der Mensch. Glaube und Weltbild
um 1600 in Philipp Uffenbachs "Zeitweiser"
- 12:25–13:45 Mittagspause**
- 13:45–14:10 PD Dr. Mateusz Kapustka (Zürich, Schweiz):
Bund am Himmelsglobus. Abrahamitische Unterscheid-
ung und die astronomische Ursprungsfrage neuzeit-
licher Bildlichkeit
- 14:10–14:35 Dr. Xian Wu (Jena):
Beiträge von Taoisten zur Entwicklung, Beschreibung
und Verbreitung des traditionellen chinesischen Stern-
bildersystems
- 14:35–15:00 Prof. Dr. Volker Bialas (München):
Der Streit um die Osterfestberechnung im frühen Mit-
telalter. Eine Fallstudie zum Verhältnis der römischen
und der keltisch-irischen Kirche
- 15:00–15:20 Kaffeepause**
- 15:20–15:45 Prof. Dr. Frank Fürbeth (Frankfurt am Main):
Astronomie/Astrologie und Heilsgeschichte in der Lit-
eratur des Spätmittelalters am Beispiel des Grals im
,Parzival' Wolframs von Eschenbach
- 15:45–16:10 PD Dr. Ute Frietsch (Wolfenbüttel):
Religiöses Wissen in Paracelsus' Schrift "Astronomia
Magna oder Die gantze Philosophia sagax der grossen
und kleinen Welt" (1571)
- 16:10–16:30 Pause**
- 16:30–16:55 Dipl.-Lehrer Stefan Kratochwil (Jena):
Der Zusammenhang von Astrologie und Theologie bei
Agrippa von Nettesheim
- 16:55–17:00 Schlußworte und Verabschiedung
- 17:00–18:00 Mitgliederversammlung**

Training of Teachers (Lehrerfortbildung)

The Teacher Training (in German) will take place on Friday afternoon, starting at 14:00 in the seminar room SR17 of the Institute for Astrophysics. Please note that the Teacher Training is different from the splinter meeting Astronomy and Education taking place on Thursday.

Freitag, 22. September 2017, 14:00–18:30

SR17

- 14:00 Oliver Schwarz:
Die Entdeckung der Ceres – ein "Wissenschaftskrimi"
um C. F. Gauß aus dem Jahre 1801
- 15:00 Frederic Hessman:
Schulen ans Teleskop! – Die Nutzung von globalen
Teleskop-Ressourcen
- 16:00 Wiltrud Niemeyer:
Das Weltall zum Anfassen – Experimente mit Schülern
zu Strömungsprozessen und Turbulenz im Universum
- 17:00 Gesa Becker:
Führung durch die Labore des MPI für Sonnensystem-
forschung

Posters

Posters will be on display in the foyers of the physics building from Tuesday morning until Friday noon. The following list provides the name of the presenting author (in general the first author). Poster abstracts including the complete list of authors are available online.

General Poster

Erik Høg:

After 64 years dedicated to astrometric instrumentation, a Gaia successor is in sight

Randolf Klein:

FIFI-LS Observations of Galactic PDRs

Randolf Klein:

Infrared Observations with SOFIA

Iris Traulsen:

Digging deeper: The first catalogue of X-ray detections from stacked XMM-Newton observations

Splinter Activity

Majid Pourabdian:

Deep focusing in time-distance helioseismology

Bastian Proxauf:

Solar near-surface flows from ring-diagram helioseismology

Patrick Schöfer:

Chromospheric Activity Indicators in Visible Light and Near Infrared

Dan Yang:

A Possible Improvement on Helioseismic Holography

Splinter CCAT

C. Bruckmann:

Simulation of Galactic disk PDRs line emission

C. Karoumpis:

Predictions for the redshift 5-9 [CII] intensity distribution

M. Ziebart:

Mapping the ISM in nearby galaxies with CCAT-p: the case of M51

Splinter E-Science

Milan Spasovic:

A study of photometric errors on two different photographic plate scans

Moritz Hackstein:

The Bochum Galactic Disk Survey

Splinter Exoplanets

Matthias Ammler-von Eiff:

Using ThNe calibration lamps for the radial velocity method

Jantje Freudenthal:

Photodynamical Modelling: An Update on Kepler-9

Sascha Grziwa:

Wavelet based filter methods for the detection and characterization of transiting planets in light curves of space based telescopes

René Heller:

Detectability of Moons Around Extrasolar Planets

Markus Hundertmark:

The ROME/REA Microlensing Key Project – a window to planets beyond the snowline

Adrian Kaminski:

The Design of the High Resolution Spectrograph CARMENES – From the Optical to the Near-IR

Judith Korth:

Orbital parameter estimation of extrasolar multi-planet systems by Transit Time Variation

Rolf Kuiper:

Hydrodynamics and Thermodynamics of super-Earth Planets' First Atmospheres

Maksym Lisogorskyi:

Measuring the radial velocity of Alpha Centauri

Nicole Pawellek:

Indicators for planets in debris disc systems

Silvia Sabotta:

Looking for Planets around A type stars – did we miss 166 of them in the Kepler field?

Andreas Schweitzer:

Masses and radii of the CARMENES target stars

Stephan Stock:

Towards Consistent Stellar Parameters for Giant Stars

Splinter HiRes

Anantha Chanumolu:

Model Based Calibrations of Microlensed Hyperspectral Imager

Adalbert Ding:

PAMIS: A Partially Multiplexed High Resolution Imaging Spectrometer

Renard Zélia Ferret:

New results on supergranulation

Marta Garcia-Rivas:

Umbral sunspot spectra observed with LARS compared to cool stars

Sowmya Krishnamurthy:

Scattering theory of Paschen-Back effect: application to Li I 6708 Å doublet

Kaori Nagashima:

Comparison between time-distance and ring-diagram helioseismology measurements of subsurface convective flows

Paul-Louis Poulrier:

Multiple scattering of acoustic waves

Damien Przybylski:

Dissipation of Alfvén waves through ion-neutral interactions

Jesper Schou:

Supergranular Waves Revisited

Nitin Yadav:

Dynamics of vortex flows in the lower solar atmosphere

Splinter HotStars

Conny Glaser:

Stellar Laboratories: High-precision Atomic Physics with STIS

Michael Knörzer:

The enigma of the missing flux in the hot, helium-rich white dwarf RE 0503-289

Tomer Shenar:

The formation of the observed Wolf-Rayet stars in the Magellanic Clouds is not dominated by mass transfer in binaries

Splinter Populations

Benjamin Bischoff:

Photometric variability in globular clusters

Noah Molinski:

Multiple stellar populations in globular clusters

Sven Martens:

Mass-dependent dynamics in globular clusters

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