Garching

Max-Planck-Institut für Astrophysik

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1 Einleitung

1.1 Kurzgeschichte

Das Institut für Astrophysik ging hervor aus der gleichnamigen Abteilung am Göttinger MPI für Physik. Mit dem Umzug nach München im Jahre 1958 wurde dieses erweitert zum MPI für Physik und Astrophysik mit Heisenberg und Biermann als Direktoren. Die Arbeiten zur theoretischen Astrophysik lieferten grundlegende Erkenntnisse zur Sonnenphysik, Plasmaphysik und Sternstruktur. 1963 wurde als neues Teilinstitut das Institut für extraterrestrische Physik gegründet. 1991 erfolgte die Aufteilung in drei eigenständige Max-Planck-Institute, das MPI für Physik (MPP), das MPI für Astrophysik (MPA) und das MPI für extraterrestrische Physik (MPE). 2008 feierte das MPA sein 50-jähriges Jubiläum. Im Herbst 2009 bekam das MPA die Genehmigung für einen Erweiterungsbau. Ziel war es, in dem neuen Gebäude einen größeren Hörsaal (120 Sitze), die Computer Gruppe, sowie die Verwaltung (MPE/MPA) unterzubringen. Die Räumlichkeiten im Altbau werden von den MPA Wissenschaftler/innen genutzt. Im Sommer 2013 waren alle Umzüge in den Anbau abgeschlossen. Seit Juni 2014 ist das neu renovierte Gästehaus wieder eröffnet worden und wird auch sehr intensiv von MPA und MPE Gästen genutzt. Zugehörig zum Gästehaus wurde 2015 noch ein Gemeinschaftsraum mit Küche fertiggestellt.

2 Personal und Ausstattung

2.1 Personalstand

Direktoren:

Guinevere Kauffmann [-2013], Eiichiro Komatsu [-2208] Volker Springel [-2195] (Geschäftsführender Direktor ab 1.7.2019), Simon White [-2211] (Geschäftsführender Direktor bis 30.6.2019)

ForschungsgruppenleiterInnen

E. Churazov, B. Ciardi, T. Enßlin, M. Gilfanov, H.-Th. Janka, T. Naab, R. Pakmor, F. Schmidt, S. Suyu, S. Vegetti, A. Weiss.

Wissenschaftliche Mitarbeiter:

A. Agrawal (1.6.-30.9.), N. Amorisco, M. Anderson (bis 30.9.), G. Angelou, R. Ardevol (1.8.-31.12.), F. Arrigoni-Battaia (seit 15.11.), A. Barreira, R. Bieri, R. Bollig (seit 1.10.), G. Cabass, T. Costa (seit 1.10.), R. Bieri, L. Blot (seit 1.10.), G. Despali, M. Eisenreich (1.10.-31.12.), F. Elsner (bis 30.9.), T. Ertl, E. Ferreira (seit 1.10.), F. Fragkoudi (seit 8.1.), M. Gabler, E. Garaldi (seit 1.11.), R. Grand (seit 1.11.), T. Gutcke (seit 15.11.), A. Halle (bis 16.10.), K. Helgason (bis 28.2.), I. Jee (bis 30.8.), A. Jerkstrand, R. Kazeroni, S. Kehl, I. Khabibullin, A. Kolodzig (bis 30.9.), A. Kozyreva (seit 1.10.), T. Lazeyras (1.6.-31.7.), K. Lozanov, A. Maleknejad, T. Melson (bis 31.12.), D. Nelson, M. Newrzella, U. Nöbauer (bis 30.11.), D. Powell (seit 6.8.), M. Reinecke, S. Saito (bis 31.12.), A. Schmidt (seit 1.12.), X. Shi (bis 30.8.), A.-K. Straub, S. Taubenberger (bis 30.6. and seit 1.10), F. van de Voort (seit 1.12.), W. Trick, G. Wagstaff* (1.3.-31.12.), A. Wongwathanarat, N. Yadav, R. Yates, A. Yildirim, C. Zhang.

Doktoranden:

F. Ahlborn (seit 1.9.), A. Agrawal (bis 31.5.), A. Anand (seit 1.9.), R. Ardevol (bis 30.7.), P. Arras, M. Ayromlou E. Batziou (seit 1.10.), R. Bollig (bis 30.9.), A. Boyle, P. Busch, C. Byrohl, C.Y Chao, G. Chirivi, L. Di Mascolo, W. Enzi, K. Fotopoulou (seit 1.9.), P. Frank (seit 1.4.), M. Frigo, I. Galiullin (seit 10.9.), R. Glas, M. Glatzle, T. Halbesma, J. Higl, J. Hislop (seit 1.9.), S. Hutschenreuter, L. Imasheva (seit 1.9.), H.Y. Ip (bis 30.6.), M. Jarvis, A. Jörgensen, J. Knollmüller, D. Kresse (sine 1.12.), J. Kuuttila, T. Lazeyras (bis 30.5.), R. Leike, S. May (seit 1.8.), L. Mirzagholi, M. Nguyen, P. Okalidis (seit 6.9.), N. Porqueres, D. Pumpe (bis 15.5.), N. Rahman (bis 31.12.), T.-E. Rathjen, E. Ritondale, F. Rizzo, F. Rizzuto (seit 1.3.), A. Schmidt (bis 30.11.), S. Schuldt (seit 15.6.), T. Steininger (bis 30.5.), G. Stockinger, J. Stücker, C. Vogl, G. Wagstaff (bis 30.1.).

Master Studenten

T. Aschenbrenner (bis 30.6.), J. Corella Puertas (1.2.-31.12.), J. Ehring (bis 30.9.), A. Flörs (bis 30.9.), P. Frank (bis 28.2.), F. Gashi (bis 30.9.), D. Gerlicher (bis 28.2.), S. Huber (bis 30.10.), S. Hutschenreuter (bis 28.2.), J. Knollmüller (bis 30.9.), M. Kurthen (bis 30.9.), J. Oberpiller (bis 30.8.), L. Platz (seit 1.3.), M. Sag (bis 30.9.), S. Schuldt (bis 30.3.), M. Wandrowski (seit 1.3.), M. Westercamp (bis 30.7.).

Systemadministratoren:

Heinz-Ado Arnolds (Leitung IT), Andreas Breitfeld, Goran Toth, Andreas Weiß.

UCÖffentlichkeitsarbeit)

Hannelore Hämmerle (MPA and MPE)

Sekretariat und Verwaltung:

Maria Depner [-2214], Sonja Gründl [-2017], Gabriele Kratschmann [-2296] Cornelia Rickl (Sekr. Geschäftsführung) [-2201].

Bibliothek

Mirna Balicevic (seit 1.1.2019), Elisabeth Blank, Christiane Hardt (Leitung).

2.2 Personelle Veränderungen

A. Agrawal und J. Stücker erhielten den Kippenhahn Preis für die beste Publikation der DoktorandInnen in 2017.

M. Greiner und T. Steininger erhielten den Hochsprung Preis. Die beiden ehemalige MPA-Studenten gründeten das Start-up "IPT - Insight Perspective Technologies GmbH" auf der Grundlage der Informationsfeldtheorie.

T. Enßlin erhielt den Hochsprung Preis für seine Vorlesungen zur Informationsfeldtheorie, die zu einem Start-up-Unternehmen führt (Insight Perspective Technologies https://ipt.ai/).

T. Enßlin and F. Elsner erhielgen den Gruber Preis für Kosmologie, als Teilgruppe von Planck.

F. Fragkoudi gewinnt den "Falling Walls Science Engagement Preis" von 2018 für ihr wissenschaftliches Projekt "Columba-Hypatia": Astronomie für den Friedenïn Zypern.

A. Jerkstrand erhielt das ERC Starting Grant.

T. Lazeyras erhielt den "Universe PhD Award 2018" in der Kategorie *Theorie*.

V. Springel erhielt den Softwareentwicklungspreis 2018 der Deutschen Astronomischen Gesellschaft.

R. Sunyaev erhielt den Marcel Grossmann Preis 2018 für die Entwicklung theoretischer Werkzeuge bei der Untersuchung, durch die die CMB, des ersten beobachtbaren elektromagnetischen Erscheinens unseres Universums.

S. Suyu erhielt das Emmy Noether Besucher Preis vom Perimeter Institut in Kanada.

2.3 Gäste

Petr Baklanov (Kurchatov Inst. Moscow) 11.6.-10.7.; Diego A. Barbosa Trujillo (Univ. Los Andes, Columbia) 2.7.- 3.8.; Marvin Baumann (Bachelor Student) 8.3. 15.6.; Andrei Beloborodov(Columbia University, USA) 1.6.-28.6.; and 23.12.–14.1.; Andrey Belyaev (Herzen Univ. St. Petersburg) 15.4.-4.5.; Kelly Blumenthal (Harvard Univ. Boston) 8.10.-24.10.; Sebastian Bustamante (HITS, Heidelberg) 12.11.-23.11.; David Casado Moran (Univ. de Madrid) 1.3.-30.9.; Marco Celoria (Gran Sasso Institute) 13.2.–31.7.; Hailiang Chen (Yunnan Observatory, China) 1.11–30.11; Miha Cernetic (MPS Göttingen) 5.11.-17.11.; Pavel Denissenkov (Univ. of Victoria, Canada) 1.6.-7.7.; Jian Fu (CAS, Shanghai, China) 25.11.-7.12.; Ilkham Galiullin (Kazan Federal University, Russia) 13.03.–24.03.; Ignacio Garciulio (Univ. La Serena, Chile) 1.8.-21.8.; Jasmine Gill (CfA, Cambridge, USA) 6.8.-3.9.; Catalina Gomez Caballero (Univ. Los Andes, Columbia) 2.7.- 3.8.; Facundo Gomez (Univ. La Serena, Chile) 1.8.-21.8.; Chia-Yu Hu (Ctr. Astrophysics, New York) 5.8.-17.8.; Svetlana Iakovleva (Herzen Univ. St. Petersburg) 22.10.-4.11.; Nail Inogamov (Landau Inst. Moscow) 7.8.-18.8.; Takuya Inoue (Doshisha University, Japan) 29.4.–8.9.; Rishi Khatri (Tata Inst. Mumbai) 14.8.-25.8.; Chiaki Kobayashi (University of Hertfordshire, UK) 17.7.–1.8.; Andreas Koch (Bachelor Student) 8.3. 15.6.; Titouan Lazeyras (SISSA, Trieste) 22.10.-2.11.; Seunghwan Lim (UMass Amherst, USA) 1.6.–31.7.; Yen-Ting Lin (ASIAA Taiwan) 23.7.-23.8.; Natalia Lyskova (IKI Moscow) 18.6.-17.8.; Alexei Maté (Internship) 2.1.-31.3.; Paolo Mazzali (John Moores Univ. Liverpool) 30.4.-19.5. und 3.10.-28.10.; Marcelo Miller-Bertolami (La Plata, Argentinia) 29.8.-5.10.; Ben Moews (ROE Edinburgh) 14.7.-28.7.; Antonela Monachesi (Univ. La Serena, Chile) 1.8.-21.8.; Jakob Mosumgaard (Aarhus Univ. DK) 2.2.-1.7.; Marcello Musso (Univ. of Pennsylvania) 11.5.-10.8. ; Daisuke Nagai (Yale University, USA) 25.8.–30.12.; Atsushi Naruko (Kyoto University, Japan) 1.8.–23.8.; Igor Ognev (State Univ., Yaroslavl, Russia) 15.09.–15.12.; Prakriti Palchoudhury (Indian Inst. Bangalore) since 25.9.; Alice Shapley (UCLA Los Angeles) 1.7.-21.7.; Prateek Sharma (Indian Inst. Bangalore) since 8.9.; Kandaswarmy Subramaian (IUCAA Pune, India) 15.7.–9.9.; Victor Utrobin (ITEP, Moscow, Russia) 15.10.–15.12.; Reiner Weinberger (HITS Heidelberg) 9.10.-22.10.; Alexander Wiegand (Cambridge, USA) 1.3.-31.3.; Ira Wolfson (Ben-Gurion University, Israel) 15.7.–2.8.; Tyrone Woods (University of Birmingham, UK) 19.11.–30.11.; Stan Woosley (UCOLICK, Santa Cruz) 19.6.-4.7.; Lisiyan Yang (Internship) 1.8.-10.9.; Xiaoqi Yu (Gustavus Adolphus College) 10.4.-31.7.; Yansong Yun (Peking University, China) 29.7.–8.9.; Lev Yungelson (Institute of Astronomy, Moscow) 1.11.–30.11.

3 Lehrtätigkeit, Prüfungen und Gremientätigkeit

3.1 Lehrtätigkeiten

T. A. Enßlin, SS 2018, LMU München

W. Hillebrandt, WS 2017/2018, TUM München

H.-Thomas Janka, WS 2017/2018 and SS 2018, TU München

V. Springel, SS 2018, Heidelberg University

S. H. Suyu, WS 2017/2018 and SS 2018, TU München

A. Weiss, WS 2017/2018 and SS 2018, LMU München

Kurz-Vorlesungen

T. A. Enßlin: "Information Theory and Signal Reconstruction" (LMU Seminar at MPA, 21.6.–22.6.)

E. Komatsu: "Physics of CMB Anisotropies" (Summer School 2018, ICTP, Trieste, 18.6.–21.6.) – "Physics of CMB Anisotropies" (Cours d'automne du LAL, Orsay, 15.10.–17.10.).

F. Schmidt: Lecture course on bias, Summer school on large-scale structure (Berlin, 23.-27.7).

H. Spruit: University of Amsterdam (Juni 2018).

A. Weiss: IMPRS Lectures (January 2018)

3.2 Gremientätigkeit

Ciardi, Benedetta: Vorsitz der wissenschaftlichen Arbeitsgruppe GLOW (German LOng Wavelength); – Mitglied Arbeitsgruppe LOFAR *Epoch of Reionization"* Arbeitsgruppe; – Mitglied des Wissenschaftsrat SKA *Epoch of Reionization"*; – Mitglied vom GLOW Resource Allocation Committee; – Mitglied von GLOW Executive Committee – Mitglied SKA Kosmische Morgendämmerung und Epoche der Reionisierungswissenschaft Team; – Koordinatorin einer der Fokusgruppen des SKA Science Teams; – Mitglied des THESEUS Science Core Teams – Mitglied des Ausschusses für das Beobachtungsprogramm der ESO; – Mitglied des Wissenschaftlichen Organisationsausschusses der Sitzung "Erhöhung und Glanz: Galaxien in der Epoche der Reionisation"'. – Mitglied des Wissenschaftlichen Organisationskomitees der Sitzung "Die ersten Milliarden Jahre des Universums erforschen";

Churazov, Eugene: – Mitglied des Wissenschaftlichen Organisationskomitees für die Snow Cluster-2018 Konferenz, (Utah, 18. bis 23. März 2018); – Vorsitzender des Wissenschaftlichen Organisationskomitees für die Konferenz "Hochenergie-Astrophysik", (Moskau, 18. bis 21. Dezember).

Enßlin, Torsten: Rapporteur for the Planck Editorial Board; Gewähltes Mitglied des Lenkungsausschusses für Physik, moderne Technik Informationstechnologien und Künstliche Intelligenz der deutschen Physik Gesellschaft (DPG);– Redaktionsmitglied der Zeitschrift für Kosmologie und Biologie. Astroteilchenphysik; – Redaktionsmitglied von Entropy – Gastredakteur bei Annalen der Physik für eine Sonderausgabe zum Thema Physik der Information; – Vertreter der Physik bei der Diskussion über digitale Wissenschaften der Deutschen Forschungsgemeinschaft (DFG); – Mitglied des Wissenschaftlichen Organisationskomitees der IAU Fokus Meeting 8.; – Berichterstatter für den Planck-Redaktionsausschuss; – Mitglied des Wissenschaftlichen Organisationskomitees der IAU Symposium 348 zum Thema "21st Century Astrometry: crossing the Dark and Habitable"

Gilfanov, Marat: Mitorganisator eines Lorentz Center Workshops "Observative Signaturen von Typ Ia Supernova Vorfahren III", Leiden, Niederlande; – Mitglied des Wissenschaftlichen Organisationskomitees der Konferenz "Hochenergie-Astrophysik - 2018", Moskau, Russland

Janka, Hans-Thomas: Beirat "Sterne und Weltraum" (SuW)

Jerkstrand, Anders: Mitglied des Wissenschaftlichen Organisationskommittee "Frontiers of massive star evolution and core-collapse supernovae?" EWASS, Athen, Griechenland 2016.

Komatsu, Eiichiro: Mitglied des externen Beratungsausschusses für Simons Observatorium.

Müller, Ewald: – Editor in chief, Living Reviews in Computational Astrophysics

Schmidt, Fabian: Mitglied der Jungen Akademie der Wissenschaften Berlin; – Organisator der Sommerschule zum Thema "large-scale structure", (Harnackhaus, Berlin, 23.-27.7).

Springel, Volker: Mitglied des Vorstands des SFB 881 "The Milky Way System"; – Mitglied des wissenschaftlichen Beirats der Gauss Zentrum für Supercomputing (GCS); – Mitglied des Internationalen Beirats des Institut für Computerkosmologie, Durham University, U.K.; – Mitglied des Lenkungsausschusses des Internationalen Netzwerks der Virgo-Konsortium.

Suyu, Sherry: Stellvertretende Vorsitzende -Vorsitzender des Wissenschaftlichen Organisationskomitees von "The Universe as a telescope" Konferenz, Uni Mailand; – Mitglied des Wissenschaftlichen Organisationskomitees von "The Extragalactic Distance Scale in the Gaia Era" Workshop, Münchener Institut für Astro- und Teilchenphysik; – Mitglied des Corporate Operations Committee, Large Synoptic Survey Telescope Corporation (Grosse Synoptische Umfrage); – Mitglied des Rudolf-Kippenhahn-Preis-Komitees, MPA

Taubenberger, Stefan: Mitglied des Publikationskommittee (Nearby Supernova Factory)

Trick Wilma: – Mitglied des Wissenschaftlichen Organisationskomitees der NYC 2018 Gaia Sprint Workshop

Vegetti, Simona: Mitglied des Wissenschaftlichen Organisationskomitees der Konferenz: Das Dunkle Universum mit extrem großen Teleskopen erhellen, Triest, Italien; – Mitglied des Wissenschaftlichen Organisationskomitees der Konferenz: "Wurde sterile Neutrino-Dunkelmaterie entdeckt?" (Lorentz-Zentrum, Leiden, Niederlande); – Mitglied des Promotionsausschusses EPFL, Lausanne, Schweiz

White, Simon: – Mitglied des Beratungsausschusses "Canadian Institute for Advanced Research, Cosmology and Gravity Program"; – Vorsitzender/Beratungsausschuss, ICC Durham Univ., England; – Vorsitz des Fachbeirat, Kavli Institut für Astronomie und Astrophysik, Peking, China; – Miglied des Führungs-/Wissenschaftskommittee, Institut Lagrange de Paris, Frankreich; – Fachbeirat, Department of Astronomy, Harvard Univ.; – Mitglied der Lehrauftragskommission der Königlich Niederländischen Akademie der Wissenschaften

Zhukovska, Svitlana: – Mitglied des Wissenschaftlichen Organisationskommittee von "Special Session 12 Dust Across the Universe in the EWASS 2017"; – Vorsitzende des Workshop "Multiple Phases of Interstellar Dust".

4 Akademische Abschlussarbeiten

4.1 Diplomarbeiten

Abgeschlossen:

Philipp Frank: Field dynamics inference via spectral density estimation. LMU München.

Fatos Gashi: Stochastic expectation propagation. LMU München.

Daniel Gerlicher: Well-balanced Finite Volume Methods in Astrophysics. TU München.

Simon Huber: Time Delays in Strongly Lensed Type Ia Supernovae with the Large Synoptic Survey Telescope. TU München.

Daniel Kresse: Stellar collapse diversity and the diffuse supernova neutrino background. TU München.

Maximilian Kurthen: Bayesian causal inference. LMU München.

Christoph Lienhard: Hamiltonian Monte Carlo sampling for fields. LMU München.

Johannes Oberpriller: Bayesian parameter estimation of miss-specified models. LMU München.

Stefan Schuldt: The inner dark matter distribution of the cosmic horseshoe with gravitational lensing and dynamics. TU München.

Margret Westerkamp, Dynamical field inference via ghost fields. LMU München.

4.2 Dissertationen

Abgeschlossen:

Aniket Agrawal: Non gaussianity of primordial gravitational waves and cosmic density and velocity fields. LMU München.

Ricard Ardevol: Development of neutrino treatment for simulations of compact binary mergers. TU München.

Robert Bollig: Muon Creation and Effects in Supernovae. TU München.

Maximilian Eisenreich: Supermassive black holes and multiphase gas in early-type galaxies. LMU München.

Hiu Yan Ip: Gravity in our cosmos: Einstein and beyond. LMU München.

Titouan Lazeyras: Investigations into dark matter halo bias. LMU München.

Daniel Pumpe: Light curves and multidimensional reconstructions of photon observations. LMU München.

Andreas Stefan Schmidt: Measuring the tidal response of structure formation using anisotropic expanding cosmological simulations. LMU München.

Theo Steininger: Rekonstruktion des Magnetfeldes der Milchstraße. LMU München.

Graham Wagstaff: Convective and atmospheric boundaries of asymptotic giant branch stars. LMU München.

4.3 Vorträge und Gastaufenthalte

Übersichtsvorträge

E. Churazov: Perseus in Sicily: from black hole to cluster outskirts , (Noto, Italy, 14.5-18.5); – COSPAR General Assembly, (Pasadena, USA, 14.7.-22.7.); – Frontiers of 21st Century Physics and Ioffe Institute (Sankt Peterburg, Russia, 29.10.-1.11.).

B. Ciardi: IGM2018: Revealing Cosmology and Reionization History with the Intergalactic Medium (Tokyo, Japan, 18.9.-21.9.); – Rise and shine: galaxies in the epoch of reionization (Strasbourg, France, 18.6.-22.6.).

T.A. Enßlin: University of Amsterdam symposium on Information (Amsterdam, Netherlands); – 2018 Postgraduate SKA Bursary Conference (Port Elizabeth, South Africa); – workshop on Radio imaging with compressed sensing (Cape Town, South Africa); – Webmeeting of darkmachines project (www.darkmachines.org, remotely); – Barolo Astroparticle Meeting on the Anisotropic Universe (Barolo, Italy); – workshop on Clustering and Unsupervised Classification for Forensics (European Commission Joint Research Centre, Ispra, Italy); – 5th IMPRS Student Symposium (MPE Garching, Germany).

M. Gilfanov: IAU GA, IAU Symposium 346 "High Mass X-ray Binaries: illuminating the passage from massive binaries to merging compact objects" (Vienna, Austria, 20.08–31.08.); – Santander 2018: Stellar Winds in Wind-Fed Systems (Santander, Spain, 08.10–11.10.).

H.-Th. Janka: Supernovae — From Simulations to Observations and Nucleosynthetic Fingerprints (Bad Honnef, Germany, 21.1.–24.1.); – Conference on "The Transient Universe" (Singapore, 26.2.–1.3.); – 12th BONN Workshop on Formation and Evolution of Neutron Stars (Bonn, Germany, 14.5.); – Shocking Supernovae: Surrounding Interactions and Unusual Events (Stockholm, 28.5.–1.6.); – Neutrino 2018 – XXVIII International Conference on Neutrino Physics and Astrophysics (Heidelberg, Germany, 4.6.–9.6.); – Gamma-ray Bursts and Supernovae: From the Central Engine(s); to the Observer (Paris, France, 25.6.–20.7.);

– Chemical Evolution and Nucleosynthesis Across the Galaxy (CENAG); (Heidelberg, Germany, 26.11.–29.11.).

A. Jerkstrand: Shocking Supernovae: surrounding interactions and unusual events (Stockholm, Sweden, 28.5.-1.6.); – Core collapse supernovae and gamma-ray bursts: from the central engine(s); to the observer (Paris, 25.6.-20.7.).

E. Komatsu: "General Relativity - The Next Generation" (Yukawa Institute for Theoretical Physics, Kyoto University, 19.2.-23.2.); – "Probing Fundamental Physics with Spectral Distortions" (CERN, 12.3.-16.3.); – "COSMO-18" (Institute for Basic Science, Daejeong, Korea; 27.8.-31.8.).

E. Müller: Core collapse supernovae (Russbach, Austria, 19.3.-23-3.); – Gamma-ray bursts and supernovae: from the central engines to the observer (Orsay, France, 24.6.-6.7.).

V. Springel: "Ringberg Workshop on Computational Galaxy Formation" (Castle Ringberg, Tegernsee, 19.3.–23.3.); "Stars, Planets, and Galaxies Conference" (Harnack House Berlin, 13.4.–18.4.); – "Multi-scale physics of star formation and feedback during galaxy formation" (Heidelberg, 25.6.–27.6.); – "15th Potsdam Thinkshop: The role of feedback in galaxy formation" (Potsdam, 3.9.-7.9.); – "Dynamic simulation of systems with large particle numbers" (Heidelberg, 24.9.-26.9.); – "Intracluster-Medium Physics and Modelling Workshop" (ESO Supernova, 8.10.–10.10.).

H. Spruit: Magnetic fields in stars (Observatoire Midi Pyrenes, Toulouse, 25.6.-29.6.). – The Gamma Cas phenomenon in Be stars (Observatoire de Strasbourg, 3.9.-5.9.). – Modern techniques in solar physics (Smadalaroe Gard, Stockholm, 29.8.-30.8.).

R. Sunyaev: CERN, "Probing fundamental physics with CMB spectral distortions" 12.3.-16.3.); – Marcel Grossmann Meeting, (Rome, Italy, 1.7.-7.7.); – Ioffe Institute 100th Anniversary, St. Petersburg, (Russia 29.10.-1.11.).

S. H. Suyu: "Observational Cosmology and Hubble Constant" (30th Rencontres de Blois - Particle Physics and Cosmology (Blois, France, 3.6.-8.6.); – "Strongly lensed AGNs and SNe with LSST" (Conference, Lyon, France, 11.6-15.6.); – The Hubble Constant: Implications for Cosmology (XIIth International Conference on the Interconnection between Particle Physics and Cosmology, Zurich, Switzerland, 20.8.-24.8.).

S. Taubenberger: European Week of Astron. and Space Science EWASS (Liverpool,3.4.-6.4.).

S. Vegetti: The Small-Scale Structure of Cold Dark Matter Santa Barbara, USA, 26.4.-26.5.); – Halo Substructure and Dark Matter Searches (Madrid, Spain, 27.7-29.7.); – Near-Far Workshop: Turnover in the UVLF (Napa, CA, USA, 4.12.-7.12.).

S. White: Lorentz Center, University of Leiden (Leiden, Netherlands, 6.2-9.2.); – Stars, Planets and Galaxies 2018 Conference (Berlin, 13.4.-18.4.).

S. Zhukovska: IAU Symposium 343: Why Galaxies Care About AGB Stars (Vienna, Austria, 20.7.–23.7).

Kolloquiumsvorträge

F. Arrigoni Battaia: Osservatorio Astronomico di Roma, (Rome, Italy, 20.11.).

B. Ciardi: Higgs Center for Theorethical Physics (Edinburgh, UK, 23.11).

G. Despali: VI Meeting on Fundamental Cosmology (Granada, Spain, 28.5.).

T.A. Enßlin: Knowledge Exchange Series (European South Observatory, Garching, Germany); – High Energy Group (MPE, Garching, Germany).

M. Gilfanov: Kazan Federal University (Kazan, Russia, 28.05.).

W. Hillebrandt: Heidelberg Institute for Theoretical Studies (Heidelberg, 23.4.).

H.-Th. Janka: SFB-1258 at ESO (Garching, Germany, 15.1.); – KIT (Karlsruhe, Germany, 19.1.); – MPI for Physics (Munich, Germany, 6.2.); – Erlangen Center for Astroparticle Physics (ECAP (Erlangen, Germany, 16.5.); – HITS (Heidelberg, Germany, 15.10.).

A. Jerkstrand: ESO (Garching, 18.1.); – University College London (18.12.).

E. Komatsu: Laboratoire d'Astrophysique de Marseille; (6.4.); – University of Manchester; (2.5.); – Université catholique de Louvain; (17.5.); – Universität zu Köln; (29.5.); – University of Zürich; (7.11.).

F. Schmidt: Kavli IPMU (Kashiwa, Japan, 10.4.); – Yukawa Institute (Kyoto, Japan, 16.4.); – Nagoya University (Nagoya, Japan, 18.4.); – LIP (Lisbon, Portugal, 7.5.).

V. Springel: University of Amsterdam, (Amsterdam, Netherlands, 21.2.); – ITC, Harvard Center for Astrophysics, (Cambridge, USA, 1.3.); – Instituto de Fisica Teorica, (Madrid, Spain, 18.6.); – Heidelberg University, (Heidelberg, 6.7.); – Max-Planck-Institute for Radio Astronomy, (Bonn, 9.11.); – Ludwig-Maximillians-University Munich, (Munich, 10.12.); – Universität Wïzburg, (Wïzburg, 16.12.).

H. Spruit: The formation of (very); slowly rotating stars: Astronomical Institute University of Amsterdam (Amsterdam, 29.6.).

S. H. Suyu: – European Space Astronomy Centre (Madrid, Spain, 8.3.); – Invited Munich Physics Colloquium, LMU and TUM, (Munich, Germany, 30.4.); – McGill University (Montreal, Canada, 19.10.); – Waterloo University (Waterloo, Canada, 28.11.).

W. Trick: Observatoire Astronomique de Strasbourg, (Strasbourg, France, 18.11.).

S. Vegetti: (Vienna, Austria, 22.01); – (Trieste, Italy, 28.02); – (Bologna, Italy, 6.03); – Pisa, Italy, 7.03); – (Florence, Italy, 8.03).

S. White: Geneva Colloquium (13.2.); – San Sebastian, Spain (13.12.).

S. Zhukovska: – INAF Osservatorio Astronomico di Roma (Rome, Italy, 11.11.); – Center for Computational Astrophysics (New York, USA, 2.5).

Öffentliche Vorträge

G. Börner: Siemensstiftung München, (3.12.); – MPG-CAS Partnergroup Meeting, Shanghai, (8.3.).

P. Busch: 'Simulating Universes', Chaos Communication Congress, Leipzig (28.12.).

E. Müller: – Gymnasium Raubling (8.11.).

H.-Th. Janka: – TU München (8.2.); – Graf-Rasso-Gymnasium Fürstenfeldbruck (9.4.).

E. Komatsu: Sendai Astronomical Observatory (10.2.); – Japan Club München (28.3.); – Max Planck Forum (19.4.); – Embassy of Japan (20.4.).

V. Springel: – Planetarium Mannheim (15.2); – Wissenschaftlicher Verein Mönchengladbach (10.4.); – DLR Astroseminar 2018, Konferenzzentrum der Luftwaffe, Köln-Wahn (24.4.); – Karl-Rahner Akademie, Köln (24.4.); – HITS Open House Day, Heidelberg (7.7.).

F. Schmidt: – DPG, Garching (26.1.).

5 Veröffentlichungen

5.1 In Zeitschriften und Büchern

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