

Garching

Max-Planck-Institut für Astrophysik

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0 Allgemeines

0.1 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, das MPI für Astrophysik und das MPI für extraterrestrische Physik.

1 Personal und Ausstattung

1.1 Personalstand

Direktoren und Professoren:

M. Asplund [-2208] (seit 1.9.), W. Hillebrandt [-2200], R. Sunyaev [-2244], S.D.M. White [-2211](Geschäftsführung).

Auswärtige Wissenschaftliche Mitglieder:

R. Giacconi, R.-P. Kudritzki, W. Tscharnuter.

Emeritierte Wissenschaftliche Mitglieder:

H. Billing, R. Kippenhahn, F. Meyer, H.U. Schmidt, E. Trefftz.

Wissenschaftliche Mitarbeiter:

A.J. Banday, J. Ballot, J. Blaizot (bis 31.8.), J. Bolton, M. Boylan-Kolchin (seit 15.10.), B. Catinella (seit 1.8.), P. Cerda-Duran, J. Chluba, B. Ciardi, D. Christlein (seit 11.9.) E. Churazov, R. Collet, G. De Lucia, N. De la Rosa, K. Dolag, T. Enßlin, A. Faltenbacher (seit 1.11.) D. Gadotti, D. Giannios, M. Gilfanov, E. Hayashi (bis 30.9.), C. Hernandez-Monteagudo (seit 15.10.), J. Hu (seit 1.9.), H.-T. Janka, G. Kauffmann, K. Kifonidis, F. Kupka, Ch. Li (seit 1.9.), L.-X. Li, A. Marek (seit 1.2.) A. Maselli, P. Mazzali, B. Metcalf, A. Merloni (bis 28.2.), O. Möller (bis 31.8.), E. Müller, R. Oechslin (bis 31.7.), E. Olsson

(bis 31.8.), R. Overzier (seit 15.11.), E. Puchwein (seit 1.10.) M. Reinecke, M. Revnivtsev, H. Ritter, F. Röpke, M. Ruszkowski (bis 31.8.) H. Sandvik (bis 30.6.), D. Sauer, S. Sazonov, C. Scannapieco, S. Sim, V. Springel, H.C. Spruit, A. Watts (bis 31.12.), S. Weinmann (seit 1.11.) A. Weiss, V. Wild, X.-G. Zhang (seit 1.12.)

Alexander von Humboldt Stipendiaten:

C. Hogan (seit 15.3), P. Madau (bis 31.8.),

Doktoranden:

M. Alves-Cruz^{*1} (seit 1.9.), A. Arcones* (bis 12.4.), M. Baldi*, A. Bauswein, R. Birkel, A. Bogdan*, S. Bonoli*, M.-P. Bottino* (seit 23.4.) M.A. Campisi*, M. Carrasco-Kind*, C. D'Angelo*, E. Donoso*, D. Docenko*, F. Elsner (seit 1.5.), M. Fink (seit 1.1.), M. Frommert, M. Grossi*, Q. Guo*, S. Hachinger (seit 1.10), N. Hammer, S. Hess (seit 1.5.), S. Hilbert, J. Jasche, P. Jofre-Pfeil*, F. Kitaura* (bis 31.12.), A. Kitsikis* (bis 31.12.), M. Kitzbichler* (bis 1.9.), M. Kromer, T. Mädler, U. Maio*, A. Marek* (bis 31.1.), S. Mineo* (seit 1.9.), M. Mocak*, R. Moll, B. Müller, M. Obergaulinger, R. Pakmor (seit 1.2.) M. Petkova*, M. Pierleoni*, P. Rebusco* (bis 4.5.), M. Righi*, S. Sazmaz* (seit 1.9.), T. Sawala* (seit 1.9.), D. Sijacki* (bis 30.9.), F. Stasyszyn* (seit 1.9.), S. Taubenberger, M. Vogelsberger, A. von der Linden* (bis 31.12.), R. Voss* (bis 4.5.), A. Waelkens, L. Wang (bis 25.8.), J. Wang*, A. Wongwathanarat* (seit 1.9.), F. Xiang*, F. Zaussinger (seit 1.9.)

Diplomanden:

J. Donnert (bis 1.10.), S. Hachinger (bis 1.3.), I. Maurer (bis 1.9.), B. Möbis (bis 30.11.).

Sekretariat und Verwaltung:

C. Rickl [Sekr. Geschäftsführung, -2201]

M. Ihle [Verwaltungsleiter, -3600]

1.2 Personelle Veränderungen

N. Grüner erhielt den "White Camel" Preis für seinen besonderen Einsatz in der Open Source Gemeinschaft PERL.

G. Kauffmann erhielt den "Leibniz Prize 2007", (eine Auszeichnung mit dem höchst dotierten deutschen Förderpreis).

F. Kupka hat die Habilitation an der Technische Universität München eingereicht.

F. Röpke wurde in das "Emmy Noether Programm" der Deutschen Forschungsgesellschaft aufgenommen.

R. Sunyaev wurde zum Mitglied der American Philosophical Society ernannt.

S. White erhielt die Gold Medaille der Royal Astronomical Society.

S. White wurde die Ehrendoktorwürde der Durham Universität verliehen.

S. White wird zum auswärtigen Mitglied der National Academy of Sciences gewählt.

1.3 Gebäude und Bibliothek

Die Bibliothek befindet sich im Astrobotikgebäude und wird von Wissenschaftlern zweier Institute genutzt, das Max-Planck-Institut für Astrophysik und extraterrestrische Physik. Die Bibliothek besitzt aktuell ca. 20.000 Bücher und Konferenzproceedings, sowie Abonnements für 200 wissenschaftliche Zeitschriften. Ein neues System (Edoc-Server) für elektronische Publikationen wurde vor 4 Jahren in der Bibliothek eingeführt.

¹*IMPRS (International Max-Planck Research School)

2 Gäste

Marek Abramowicz (Chalmers Univ. Schweden) 15.5.–31.5.; Miguel Aloy (Univ. Valencia) 21.3.–4.4.; Pia Amigo (Univ. Catolica, Chile) 13.2.–12.6.; Charmaine Armitage (Univ. Illinois, USA) 11.6.–1.7.; Isabelle Baraffe (Univ. Lyon) 22.10.–21.12.; Miroslav Barta (Astron. Inst. Ondrejov, Czech Rep.) 19.3.–16.4.; Rahul Biswas (Univ. of Illinois, USA) 1.2.–31.7.; Sergey Blinnikov (ITEP Moskau) 1.8.–15.9.; Richard Bond (CITA, Toronto) 1.10.–31.12.; Matthieu Brassart (Obs. de Paris, Frankreich) seit 1.12.; Tamas Budavari (Johns Hopkins Univ.) 1.7.–31.7.; Gilles Chabrier (Univ. Lyon) 22.10.–21.12.; Phil Chang (UC Berkeley) 7.8.–22.8.; Ruixiang Chang (Shanghai Obs. China) bis 28.2.; Yan-Mei Chen (Inst. HE Phys. Beijing) seit 10.10.; Paula Coelho (Univ. Sao Paulo, Brasilien) bis 26.5.; Isabel Cordero (Carrion Valencia, Spanien) 26.4.–21.5.; Rodolfo Costa (Sao Paulo, Brasilien) 12.6.–11.9.; Marc Davis (Univ. California) 1.9.–31.12.; Celine Eminian (Univ. Sussex, U.K.) 7.1.–30.4.; Chad Fendt (Univ. Illinois) 13.5.–22.6.; Ekaterina Filippova (HE Astr. Dept. Moskau) 4.2.–3.5.; und 1.11.–9.12.; Sergio Flores (Univ. Catolica, Santiago, Chile) 25.5.–25.7.; Konstantinos Gourgouliatos (Cambridge, England) 17.4.–16.7.; Sergey Grebnev (HE Astr. Dept. Moskau) 22.11.–22.12.; Gustavo Guerrero (Sao Paulo, Brasilien) 22.2.–8.33; Melanie Guittet (Univ. Bourgogne, Dijon) 16.07.–31.08.; Stanislav Gunar (Ondrejov, Tschechien) 15.1.–14.4.; Kevin Heng (Univ. Colorado) 25.7.–24.10.; Craig Hogan (Univ. Washington) seit 26.6.; Jiri Horak (Univ. Köln) 15.5.–31.5.; Zhen Hou (CAS, Beijing China) seit 17.10.; Nail Inogamov (Landau Inst., Moskau) 30.1.–7.4.; Chunyan Jiang (SHAO, Shanghai, China) seit 1.9.; Chanda Jog (IISC, Bangalore, Indien) 19.9.–11.10.; Anjor Kanekar (Pune, India) 8.5.–23.7.; Wolfgang Kerzendorf (MS Obs. Australien) 8.1.–7.2.; Rishi Khatri (Univ. Illinois) 15.5.–15.7.; Kei Kotake (Nat. Astron. Obs, Japan) 01.04–31.12.; Roman Krivonos (HE Astr. Moskau) 11.5.–9.8.; Michael Kuhlen (Princeton Univ. USA) 31.5.–15.6.; Jounghun Lee (Astro, SNU, Korea) 1.8.–31.8.; Yang-Shyang Li (Univ. Groningen, Holland) 29.10.–15.12.; Fukun Liu (Beijing Univ.) 10.1.–10.2.; Patryk Mach (Cracow Univ., Polen) bis 31.07.; R.E. Garcia Machado (Sao Paulo, Brasilien) bis 8.3.; Michal Maciejewski (IAP Frankreich) 19.3.–18.6.; Kei'ichi Maeda (Univ. Tokyo, Japan) bis 14.12.; Gian Mario Manca (Univ. di Parma, Italien) 1.2.–30.9.; Samir Mandal (CSP, Kolkata, India) 6.3.–15.5.; Shude Mao (Univ. Manchester, England) 1.4.–1.9.; Federico Marulli (Astron. Bologna, Italien) 1.2.–30.4.; Brice Menard (Univ. Toronto, Kanada) 29.8.–12.10.; Jorge Melendez (ANU, Weston, Australia) 18.11.–1.12.; Petar Mimica (Univ. Valencia) 11.6.–10.7.; Antonio Montero Dorta (Inst. Astr. Andalusia, Spanien) 24.2.–11.3.; Dimitrij Nadyozhin (ITEP, Moskau) 22.3.–21.5.; Daniel Neumann (Univ. Würzburg) 15.2.–31.3.; Caroline Nunez Santilices (PUC Chile) 8.9.–7.12.; Sebastian Nuza (Buenos Aires, AR) 1.9.–30.11.; Christof Obertscheider (Univ. Wien) 20.5.–15.6.; Igor Panov (ITEP, Moskau) 1.3.–30.4.; Ben Panter (IfA Edinburgh, England) 5.2.–16.2.; Santiago Patiri (IAC Tenerife, Spanien) 11.1.–10.4.; Maria Josefa Perez (O.N. de la Plata, AR) 26.7.–27.9.; Christoph Pfrommer (CITA, Toronto, Kanada) 30.09–20.10; Igor Prokopenko (HE Astr. Dept. Moskau) 1.4.–30.4.; Andreas T. Reisenegger (Univ. Santiago de Chile) 2.2.–20.7.; Elena Rossi (Univ. Colorado, USA) 12.6.–11.7.; Maurizio Salaris (Liverpool, John Moores Univ.) 1.10.–13.10.; Samui Saumyadip (IUCAA, Pune, Indien) 1.11.–16.11.; Alexandro Saro (Univ. Padova, Italien) bis 30.4.; Arman Shafieloo (IUCAA, Pune, Indien) 15.5.–14.7.; Nikolai Shakura (Sternberg Inst. Moskau) 1.9.–30.9.; Ken Shen (UC Santa Barbara, USA) 28.5.–27.8.; Shiyin Shen (Shanghai Obs. China) bis 15.2.; Pavel Shtykovskiy (Space Research Institute, Moskau) 15.4.–15.6.; und 7.10.–7.11.; Debora Sijacki (Cambridge, England) 30.9.–16.10.; Victor Silva (Santiago de Chile) 1.4.–31.5.; Jan-Hendrik Spille (Univ. Würzburg) 15.2.–31.3.; Kohsuke Sumiyoshi (Shizuoka, Japan) 7.8.–22.8.; Alex Sandor Szalay (Johns Hopkins Univ., USA) 12.3.–31.7.; Federico Stasyszyn (Univ. Cordoba, Argentina) 1.5.–30.6.; Manuchehr Taghizadeh (Johns Hopkins Univ.) 10.04–10.07; Luca Tonatore (Astr. Obs. Trieste, Italien) 9.7.–21.7.; Sergey Tsygankov (HEA Dept. Moskau) 22.5.–21.8.; Victor Utrobin (ITEP, Moskau) 1.10.–30.11.; Franco Vazza (Radio Astron. Bologna, Italien) 28.10.–10.11.; Benjamin Wandelt (Univ. Illinois, USA) 6.1.–1.8.; Norbert Werner (Utrecht, NL) 1.1.–31.8.; Dandan Xu (Univ. Manchester) 23.6.–7.7.; Amit Yadav (Univ. Illinois, USA) 15.3.–15.5.; Ching-Wa Yip (Johns Hopkins Univ.) 20.5.–11.6.; Zhongli Zhang (Shanghai Jiao Tong Univ.) 15.4.–14.8.;

3 Lehrtätigkeit, Prüfungen und Gremientätigkeit

3.1 Lehrtätigkeiten

W. Hillebrandt: SS 07, TU München
 H.-Th. Janka WS07/08, TU München
 E. Müller, WS07/08, TU München
 F. Kupka, SS07, TU München
 H. Ritter, WS06/07, SS07 LMU München
 H. Ritter & A. Weiss, WS07/08, LMU München
 F. Röpke, SS07, TU München und WS07/08, TU München
 A. Weiss, SS07, LMU München

3.2 Sonstige Kurz-Vorlesungen

B. Ciardi: “A hot topic: the 21 cm line” (First TRR33 Winter school; 2.12–8.12)
 B. Ciardi: “The reionization process” (First MCCT-SKADS Training School; 23.9–29.9)
 T. Enßlin: “CMB & 21cm from the Epoch of Reionization” (IMPRS Munich, 20.9.-25.9.)
 H.-Th. Janka: “Supernovae and Gamma-Ray Bursts” (Univ. Uppsala, 4.12.–5.12.)
 F. Röpke: “Type Ia supernovae”, Helmholtz International Summer School “Nuclear Theory and Astrophysical Applications” (Bogoliubov Laboratory for Theoretical Physics, JINR, Dubna, Russland, 7.8.-17.8.)

3.3 Gremientätigkeit

T. Bandy: – Planck Koordinator für die Technische Arbeitsgruppe (WT 8) “Planck and the Virtual Observatory”.; – Vorsitzender von PLANCK Level-S change configuration board (CCB); – Mitglied von Planck SGS2 End-to-end test review board; – Mitglied des advisory panel von NASA’s CMB Data Center, the Legacy Archive for Microwave Background Data Analysis (LAMBDA).;

E. Churazov: – Mitglied der INTEGRAL Projekt Gruppe

B. Ciardi: – Vorsitzende der wissenschaftlichen Arbeitsgruppe von GLOW Konsortium (German LOng Wavelength); – Projektmanagerin für die Entstehung und Platzierung von LOFAR (Radioteleskop Station am MPA); – Mitglied der wissenschaftlichen Arbeitsgruppe SKA (Square Kilometer Array)

T.A. Enßlin: – Projektleiter des MPA Planck Analysis Centre; – Steuerungsausschuss des AstroGrid-D

W. Hillebrandt: – Vorsitzender von Supernova Arbeitsgruppe, IAU, Commission VIII
 – Vorsitzender, Beirat des Rechenzentrums Garching; – Mitherausgeber, Lecture Notes in Physics; – Mitglied, DFG Senat Komitee on Collaborative Research Centres

H.-Th. Janka: – Mitglied des “SciDAC Advisory Committee”

G. Kauffmann: – Mitglied des IMPRS Aufnahmekomitees für neue Studenten; – Ausschuss-Vorsitzende des Zeiteinteilungskomitees für Hubble Space Telescope

E. Müller: – Vorstandsmitglied des Sonderforschungsbereichs “Transregio Gravitationswellenastronomie”; – Mitglied Benutzerkomitee und Beirat am Rechenzentrum Garching (RZG/IPP); – Betriebsratvorsitzender am MPA

S. Sazonov: Russischer Beauftragter für das INTEGRAL - Zeiteinteilungskomitee

H.C. Spruit: – Mitglied des Redaktionsteams, Solar Physics journal; – Koordinator von Wiss. Aktivitäten JRA3 OPTICON (High Time Resolution Astrophysics)

R. Sunyaev: – Mitglied des Space Council - Russische Akademie der Wissenschaften; – Mitglied des Scientific Council of Russian Space Research Institute (IKI); – Mitglied der INTEGRAL wissenschaftlichen Arbeitsgruppe und “Russian Project Scientist for INTEGRAL” (ESA project); – Stellvertretender Vorsitz des SPECTRUM-X space project International Scientific Committee; – Co-I of the HFI instrument of ESA PLANCK SURVEYOR project; – Leiter für Deutschland im TMR Network “CMBNET”; – Mitglied des NOVA International Advisory Board; – Mitglied des Evaluation Committee for SISSA;

A. Weiss: – Mitglied des D3 ESO Ausschusses “Observing Programms Committee 80”

S.D.M. White: – Fachbeiratsmitglied, Institute for Astrophysics, University of Porto; – Fachbeiratsmitglied, Astrophysikalisches Institut Potsdam; – Fachbeiratsmitglied, Physics Department, Ecole Normale Supérieure, Paris; – Mitglied - Netzwerk OPTICON “A European Discussion Network for Optical and Infrared Astronomy”; – Mitglied vom “Beirat Wissenschaftskolleg zu Berlin”; – Mitglied des Revisionskomitee von DAPNIA, Saclay, Frankreich; – Fachbeiratsmitglied Observatoire de Lyon, Frankreich; – Kuratoriumsmitglied vom “Physik Journal”; – Fachbeiratsmitglied - Instituto de Astrofisica de Canarias, Spanien; – Mitglied des Beratungsausschusses “Canadian Institute for Advanced Research, Cosmology and Gravity Program”; – Beratendes Mitglied für Kosmologie Preis, Peter Gruber Stiftung; – Member of the Advisory Council, Sloan Digital Sky Survey

4 Wissenschaftliche Arbeiten

Für Informationen zu den wissenschaftlichen Arbeiten unseres Instituts, besuchen Sie bitte unsere Webseite unter: <http://www.mpa-garching.mpg.de> und klicken Sie “Über das Institut” und “Jahresberichte” an. Sollten Sie kein Internet haben, können Sie gerne kostenlos einen Jahresbericht unter der Telefon-Nummer 089/30000-2214 anfordern. In unserem Jahresbericht 2007 sind folgende wissenschaftlichen Aktivitäten in englischer Sprache ausführlich beschrieben:

- 4.1 Numerische Hydrodynamik
- 4.2 Stellare Astrophysik
- 4.3 Nukleare und Neutrino-Astrophysik
- 4.4 Hochenergie Astrophysik
- 4.5 Akkretion
- 4.6 Wechselwirkung von Strahlung mit Materie
- 4.7 Galaxienentwicklung und Intergalaktisches Medium
- 4.8 Großräumige Strukturen, Dunkle Materie und Gravitationslinseneffekt
- 4.9 Kosmischer Mikrowellenhintergrund
- 4.10 Quantenmechanik von Atomen und Molekülen, Astrochemie

5 Diplomarbeiten, Dissertationen, Habilitationen

5.1 Diplomarbeiten

Abgeschlossen:

Julius Donnert: A numerical study on the origin of cluster magnetic fields. Technische Universität München.

Stephan Hachinger: Quantitative analysis of spectra of type Ia supernovae. Technische Universität München.

Immanuel Maurer: Morphology of Type-I X-ray Bursts. Ludwig-Maximilians-Universität München.

5.2 Dissertationen

Abgeschlossen:

Almudena Arcones: On nucleosynthesis-relevant conditions in neutrino-driven supernova outflows. Technische Universität München.

Martin Jubelgas: Cosmological hydrodynamics: thermal conduction and cosmic rays. Ludwig-Maximilians-Universität München.

Francisco Kitaura: Cosmic Cartography: Bayesian reconstruction of the cosmological large-scale structure with ARGO- an Algorithm for the Reconstruction of Galaxy-traced Overdensities. Ludwig-Maximilians-Universität München.

Andreas Marek: Multi-dimensional simulations of core collapse supernovae with different equations of state for hot proto-neutron stars. Technische Universität München.

Paula Rebusco: Impact of supermassive black holes on galaxy clusters. Ludwig-Maximilians-Universität München.

Debora Sijacki: Non gravitational heating mechanisms in galaxy clusters. Ludwig-Maximilians-Universität München.

Anja von der Linden: Galaxy evolution from the SDSS and EDisCS surveys. Ludwig-Maximilians-Universität München.

Rasmus Voss: Populations of low mass X-ray binaries in the galaxies Centaurus A and Andromeda. Ludwig-Maximilians-Universität München.

Laufend:

M. Alves-Cruz: "S-process in extremely metal-poor stars" Ludwig-Maximilians-Universität, München.

M. Baldi: "Interactions between Dark Energy and Dark Matter" Ludwig-Maximilians-Universität, München.

A. Bauswein: "Verschmelzende Neutronensterne und nukleare Zustandsgleichungen und Konsequenzen fuer Elemententstehung" Technische Universität, München.

A. Bogdan: "Populations of X-ray binaries in nearby galaxies" Ludwig-Maximilians-Universität, München.

S. Bonoli: "Supermassive Black Holes, Quasars and Galaxy formation" Ludwig-Maximilians-Universität, München.

P. Bottino: "Component separation methods for Cosmic Microwave Background studies" Ludwig-Maximilians-Universität, München.

M. A. Campisi: "Gamma-Ray Bursts and Cosmology" Ludwig-Maximilians-Universität, München.

M. Carrasco Kind: "Environmental dependence of LSS properties", Ludwig-Maximilians-Universität, München.

C. D'Angelo: "Investigating ordered magnetic fields in black hole accretion disks", Ludwig-Maximilians-Universität, München.

D. Docenko: "High Z-Ions in the Hot Astrophysical Plasmas" Ludwig-Maximilians-Universität, München.

E. Donoso: "Evolution of Radio Galaxies and its Effect on the Galaxy Population" Ludwig-Maximilians-Universität, München.

F. Elsner: "Search for non-Gaussian signatures in Cosmic Microwave Background" Ludwig-Maximilians-Universität, München.

M. Fink: "Thermonuclear Detonations in White Dwarfs" Technische Universität, München.

- M. Frommert: “Constraining Cosmological Scenarios” Ludwig-Maximilians-Universität, München.
- M. Grossi: “Cosmological simulations of non-standard dark energy models as a tool to predict their observational implications”, Ludwig-Maximilians-Universität, München.
- Qi Guo: “Cosmological Semi-Analytical Models” Ludwig-Maximilians-Universität, München.
- S. Hachinger: “Quantitative Analyse von Typ Ia - Supernovaspektren” Technische Universität, München.
- N. Hammer: “Axis-free methods for hydrodynamical simulations using spherical grids” Technische Universität, München.
- S. Hess: “Tesselation Hydrodynamics” Ludwig-Maximilians-Universität, München
- S. Hilbert: “Gravitational Lensing with the Millennium Run” Ludwig-Maximilians-Universität, München.
- P. Jofre-Pfeil: Bestimmung der Eigenschaften galaktischer Sternpopulationen aus dem Sloan Digital Sky survey. Ludwig-Maximilians-Universität, München.
- A. Kitsikis: “Theoretical AGB and post-AGB Stellar Models for Synthetic Population Studies” Ludwig-Maximilians-Universität, München.
- M. G. Kitzbichler: “Galaxy Formation Modelling in the Millennium Simulation” Ludwig-Maximilians-Universität, München.
- M. Kromer: “Synthetic spectra and lightcurves of type Ia supernovae”, Technische Universität, München.
- T. Mädler: “Simulation of a Rotating Core Collaps in Characteristic Formulation in General Relativity” Technische Universität, München.
- U. Maio: “Simulations of cosmic structure formation” Ludwig-Maximilians-Universität, München.
- I. Maurer: “Gamma Ray Bursts and their Super Novae” Technische Universität, München.
- S. Mineo: “X-ray emission from star-forming galaxies” Ludwig-Maximilians-Universität, München.
- R. Moll: “Magnetic Acceleration of Gamma-Ray Bursts”, Universität Amsterdam.
- M. Mocak: “An Investigation of Dynamic Phases of Stellar Evolution” Technische Universität, München.
- M. Obergaulinger: “Influence of Magnetic Fields on the Dynamics of Collapsars”, Technische Universität, München.
- S. Osłowski: “Unified model for the evolution of radio-loud and optical AGN” Ludwig-Maximilians-Universität, München.
- M. Petkova: “Implementation of radiative transfer into the cosmological simulation code Gadget”, Ludwig-Maximilians-Universität, München.
- M. Pierleoni: “Lyalpha/continuum radiative transfer: cosmological applications” Ludwig-Maximilians-Universität, München.
- R. Pakmor: “Verschmelzende Weiße Zwerge als Vorläufer von Typ Ia Supernovae” Technische Universität, München.
- M. Rigbi: “Observational consequences of the chemical elements production in the epoch of reionization of the universe” Ludwig-Maximilians-Universität, München.
- S. Sasmaz: “Magnetohydrodynamics of the Solar Surface and Convection Zone” Ludwig-Maximilians-Universität, München.
- F. Stasyszyn: “Smoothed particle magneto-hydro-dynamics for cosmological applications”

Ludwig-Maximilians-Universität, München.

S. Taubenberger: Interpretation of lightcurves and spectra of Type Ia supernovae. Technische Universität München.

M. Vogelsberger: "Internal structure of dark matter halos" Ludwig-Maximilians-Universität, München.

A. Waelkens: "Studying MHD turbulence using radio astronomical tools" Ludwig-Maximilians-Universität, München.

Jie Wang: "Structure formation simulations in various cosmologies", Ludwig-Maximilians-Universität, München.

Lan Wang: "Building Halo Occupation Distribution Models for comparison with SDSS data" Peking Universität, China.

A. Wongwathanarat: "Multidimensional simulations of core collapse supernovae using a two-patch overset grid in spherical coordinates" Technische Universität München.

F. Zaussinger: "Modeling of diffusiv and double-diffusiv convection" Universität Wien.

6 Tagungen, Projekte am Institut und Beobachtungszeiten

M. Baldi (Mitorganisator) der Transregio Winterschule "The Dark Universe: theory for observers and observations for theorists", 2.12.-8.12.

A.J. Banday (Hauptorganisator) der Konferenz "Data Analysis in Cosmology" Santander, 9.7.-12.7.

G. Börner, Y.P. Jing, A. Dress. Arbeitstreffen "Statistical Methods in Astrophysics and Biology" Shanghai, 26.4.-27.4.

E. Churazov und S. Sazonov (Wissenschaftliches Organisationskommittee), Konferenz "Hochenergieastrophysik", Moskau, Russland (24.12.-26.12.)

B. Ciardi: "First Stars III", 16.7.-20.7.

B. Ciardi: "Astrophysics in the LOFAR era", 23.4.-27.4.

B. Ciardi: "Radiative Transfer Workshop", 3.9.-7.9.

E. Müller: SFB/TR 27 'Gravitational Wave Astronomy', Jahrestagung MPA, Garching, 25.9.-26.9.

D.A. Gadotti, G. Kauffmann et al. The MPA/ESO/MPE/USM 2007 - Internationale Konferenz "Gas Accretion and Star Formation in Galaxies" 10.9.-14.9.

H.-Th. Janka, M. Aloy, S. Kulkarni et al. Arbeitstreffen "Short Gamma-Ray Bursts: Observations and Physics", 26.3.-30.3.

G. Kauffmann, von der Linden, V. Wild: MAGPOP Sommerschule "Multi-wavelength Analysis of Galaxy Populations", 6.8.-10.8.

G. Kauffmann - Hauptorganisatorin - Konferenz "Obscured AGN across Cosmic Time", 5.6.-7.6.

G. Kauffmann et al. IAU Symposium 245: "Formation and Evolution of Galactic Bulges", 16.7.-20.7.

A. Watts: Neutron star dynamics collaboration, Arbeitsgruppe "Oscillations of Magnetic Neutron stars", Univ. Tübingen.

A. Weiss, IAU Symposium 252 "The Art of Modelling Stars in the 21st Century", Sanya, China, 6.4.-11.4.

A. Weiss, Konferenz "First Stars III", Santa Fe, USA, 16.7.-20.7.

A. Weiss, Arbeitstreffen "XXI Century challenges for stellar evolution", Cefalu, Italien,

29.8.-2.9.,

V. Wild: Arbeitstreffen MAGPOP Garching Spectra Arbeitstreffen, 28.5.-31.5.

V. Wild, G. Kauffmann: MAGPOP - Jahrestreffen, 29.10.-31.10.

6.1 Beobachtungszeiten

S. Benetti (INAD-OAPd), L. Zampieri (INAF-OAPd), I. Agnoletto (INAF-OAPd), F. Bufano (INAF-OAPd) et al (incl. N. Elias-Rosa),: Telescopio Nazionale Galileo, La Palma, Spanien, Dolores and NICS, The contribution of Supernovae to the cosmic chemical evolution (8.7.-1.8.)

N. Elias-Rosa, S. Benetti (INAF-OAPd), F. Bufano (INAF-OAPd), E. Cappellaro (INAF-OAPd), P. Milne (Steward Observatory), F. Patat (ESO) et al.: 26.11.07/ 27.01.08, ESO New Technology Telescope, Chile, EMMI, Deriving the extinction law in external galaxies by using Supernovae;

N. Elias-Rosa, W. Hillebrandt, S. Taubenberger, P. Mazzali, F. Patat (ESO), S. Benetti (INAF-OAPd) et al.: Calar Alto Observatory, German-Spanish Astronomical Center, Almería, Spanien, CAFOS, The contribution of Supernovae to the cosmic chemical evolution (1.8.-6.8.)

D.A. Gadotti, E. Athanassoula (LAM/OAMP), A. Bosma (LAM/OAMP): service mode, 2007B, European Southern Observatory, Very Large Telescope, Cerro Paranal, Chile, FLAMES/GIRAFFE, Determining the Vertical Evolution of Bars through Stellar Kinematics

T. Heckman (JHU), V. Wild (MPA), P. Sonnentrucker (JHU), B. Groves (Leiden), L. Armus (Spitzer Science Center), G. Kauffmann (MPA): No. 40330, Spitzer Space Telescope, Are Starbursts the Progenitors of Supermassive Black Holes?

W. Hillebrandt (CoI) and S. Taubenberger (CoI): Calar Alto, Spanien, 6 nights on the 2.2m telescope, The contribution of supernovae to the cosmic chemical evolution

P. Mazzali (PI) CoIs: E. Pian, E. Cappellaro, F. Patat, Turatto, S. Benetti, Valenti, Kawabata, Nomoto, et al. Title: Late-time spectrophotometry of Type Ib/c Supernovae: diagnostics on energies, asphericities, and progenitors Instrument: ESO VLT FORS (Time: 21 hours)

P. Mazzali (PI) CoIs: E. Pian, E. Cappellaro, F. Patat, Turatto, S. Benetti, Valenti, Kawabata, K. Nomoto, K. Maeda, et al. Title: Late-time spectrophotometry of Type Ib/c Supernovae: diagnostics on energies, asphericities, and progenitors, Instrument: ESO VLT FORS (Time: 23 hours)

S. Sazonov: INTEGRAL (International Gamma-Ray Astrophysics Laboratory, European Space Agency, Broad-band spectroscopy of GRB prompt and early afterglow emission (GRB 070311) (11.3.)

Spruit, H.C. Swedish 1-m Solar Telescope, La Palma, signatures of small scale magnetic fields of the new cycle (21.6-3.7.)

S. Taubenberger: - 1.82m Teleskop in Asiago / Cima Ekar (Italien). Die Beobachtungszeit war von der SN Gruppe am Observatorium in Padua (20.1.-23.1.)

S. Taubenberger: am 1.82m Teleskop in Asiago / Cima Ekar, Italien (13.4. - 15.4.)

V. Wild (MPA), M. Doherty (ESO Chile), B. Groves (Leiden): No. 32, Calar Alto 3.5m, Spanien, Are starbursts the trigger of Supermassive Black Hole growth?

6.2 Vorträge und Gastaufenthalte

6.3 Übersichtsvorträge

J.S. Bolton:

Astrophysik seminar (invited), School of Physics, Universität Melbourne (Melbourne, Au-

stralia, 28.11.07)

P. Cerdá-Durán:

– “Matter at extreme densities and gravitational waves from compact objects” Arbeitsgruppe, (ECT*, Trento, Italien, 10.9-14.9.)

D. Christlein:

– “At the Outer Banks of the Island Universes - A Spectroscopic Perspective” (contributed talk), Vatican Observatory Symposium “Formation and Evolution of Disk Galaxies”, Rome, Italien, Oct 2nd, 2007

E. Churazov:

– Joint Astronomical Conference VAK 2007, (Kazan, Russland, 17.09.-22.09) – Helmholtz International Summer School on Modern Mathematical Physics (Dubna, Russland, 22.07-30.07)

B. Ciardi:

– “First Stars III” (Santa Fe, New Mexico, USA, 16.7–20.7) – “HI Survival through Cosmic Times” (Sarteano, Italien, 11.6–15.6)

– “XCIII National Congress of the Italian Society of Physics” (Pisa, Italien, 24.9–29.9)

G. De Lucia:

– “Tracing Cosmic Evolution with Clusters of Galaxies: Six Years Later” (Sesto Pusteria, Italien, 25.06 - 29.06)

T. Enßlin:

– Invited Talk, “The large scale magnetic field of the Milky Way” Workshop, (Princeton, USA, April 30.04-02.05)

D.A. Gadotti:

– Laboratoire d’Astrophysique de Marseille, (Marseille, Frankreich, May) – Invited Review at Chaos in Astronomy 2007, Research Center for Astronomy, Akademie Athen, Griechenland September.

D. Giannios:

– “Workshop in Short Gamma Ray Bursts: Observations and Physics” (Ringberg, 26.03.–30.03.)

M. Gilfanov:

– “Workshop on Microquasars and AGN” (Kreta, Griechenland 4.06–8.06) – “Astrophysics of Neutron Stars” (Istanbul, Türkei, 2.07-6.07) – “X-rays from Nearby Galaxies” (Villafranca del Castillo, Spanien, 5.09–7.09)

– Invited Plenary Talk, Russian Astronomy Meeting (Kazan, Russland, 17.09–22.09)

– “HEA-2007” (Moscow, Russland, 24.12–26.12)

W. Hillebrandt:

– Paths to Exploding Stars: Accretion and Eruption (KITP, Santa Barbara, USA, 19. 3. – 23. 3.)

– ScicomP13 (Garching, 16.7. – 20.7.)

– Nuclear Astrophysics: Beyond the first Fifty Years (Caltech, Pasadena, USA, 23. 7. – 27. 7.)

H.-Th. Janka:

– “Supernova 1987A: 20 Years After. Supernovae and Gamma-Ray Bursters” International Conference (Aspen, Colorado, 19.2.–23.2.)

– “Twenty Years After SN 1987A” International Conference (Hawaii, 23.2.–25.2.)

– “XIXth Rencontres de Blois: Matter and Energy in the Universe: from Nucleosynthesis to Cosmology” Workshop (Blois, Frankreich, 20.5.–26.5.)

– “40 Years of Pulsars: Millisecond Pulsars, Magnetars, and More” Conference (Montreal, Kanada, 12.8.–17.8.)

– “Cosmic Matter” Astronomische Gesellschaft and KAT Conference (Würzburg, 24.9.–29.9.)

- “Supernovae: Lights in the Darkness” Conference (Menorca, Spanien, 3.10.–5.10.)

G.Kauffmann:

- “Structure formation on the Universe: Galaxies, Stars, Planets” (Chamonix, Frankreich, 28.5.-1.6.)
- “Spectroscopy in Cosmology and Galaxy Evolution 2005-2015” (Granada, Spanien, 3.10.-5.10.)

P. Mazzali:

- “Supernovae and Gamma-ray Bursts” at the meeting “SN1987a: 20 years after”, (Aspen, CO, USA, 19.2.-23.2.)
- “Hypernovae and Gamma-ray Bursts” at the meeting “Accretion and Explosion” KITP, (Santa Barbara, CA, USA, 20.3.-24.3.)
- “The SN-GRB connection” at the meeting Cosmology: Energetic events in the Universe” (Marseille, Frankreich, 25.6.–27.6.)
- “H-depleted Supernovae” at the meeting “H-depleted Stars” (Tübingen, 17.9.–21.9.)

H. Ritter:

- “Jean-Pierre Lasota, X-ray binaries, accretion disks and compact stars” conference at the occasion of Jean-Pierre Lasota’s 65th birthday (Trzebiezowice castle, Poland, 7.10-13.10.)

F. Röpke: The XXIII Trobades Científiques de la Mediterrània “Supernovae: light in the darkness”, (Maó, Menorca, Spanien, 3.10.-5.10.)

V. Springel:

- “The Impact of AGN Feedback on Galaxy Formation” (Ringberg Castle, 20.-26.5.)
- ESO Conference on “Obscured AGN Across Cosmic Time” (Seeon, 5.-8.6.)
- “Next generation of computational models of baryonic physics in galaxy formation: from protostellar cores to disk galaxies” (Zürich, Schweiz, 17.-21.9.)

Spruit, H.C.:

Invited review, “40 years of Pulsars” Symposium, McGill Universität (Montreal, Kanada 15.8.)

A. Watts:

- Universität of Basel Institute for Physics, Dezember
- Jodrell Bank Centre for Astrophysics, Manchester Universität, Oktober
- Astrophysics Science Division, NASA Goddard Space Flight Center, April
- Joint Institute for Nuclear Astrophysics, Michigan State Universität, April
- Theoretical Astrophysics Center, UC Berkeley, April
- Universität of Toronto Astronomy Department, April

S. Weinmann:

“Star Formation Truncation in Satellite Galaxies”, Talk at the MPA/SHAO workshop, November

S. White: – IUCAA Workshop, (Pune, Indien 5.3.–9.3.)

- ESF Meeting on The Origin of Galaxies, (Oberurgl, Östreich 24.3.–29.3.)
- Zeus Science Meeting, London (2.4.-4.4.)
- The Hunt for Dark Matter, Fermilab, (Batavia, USA, 9.5.-12.5.)
- Structure formation in the Universe, (Chamonix, Frankreich 28.5.-1.6.)
- IAP Colloquium No. 23 From Giant Arcs to CMB Lensing, (Paris, Frankreich 30.6.-4.7.)
- From IRAS to HERSCHEL/PLANCK, (London, UK, 9.7.-11.7.)
- Dynamics of Galaxies, (St. Petersburg, Russland 6.8.-10.8.)
- Gas Accretion and Star Formation in Galaxies, (Garching 10.7.-14.7.)
- Spectroscopy in Cosmology and Galaxy Evolution, (Granada, Spanien 3.10.-5.10.)

6.4 Kolloquiums Vorträge

G. Börner:

Physik Kolloquium (Univ. Jena, 23.1.)

P. Cerdá-Durán:

– Seminar at the Aristotle Universität Thessaloniki (Thessaloniki, Griechenland, 5.03)

– Seminar at LUTH-Observatoire de Paris (Paris, Frankreich 3.09)

B. Ciardi:

– Kolloquium (Laboratoire d’Astrophysique de Marseille; 30.3) – Kolloquium (Kapteyn Institute, Groningen; 29.10)

G. De Lucia:

– Kolloquium (Observatoire de Genève; 9.01)

H.-Th. Janka:

– Universität Kolloquium (Basel, Switzerland, 12.1.) – Physik Kolloquium (Bonn, 19.1.)

– MLL-Kolloquium für Kern- und Teilchenphysik (Garching, 1.2.) – Kolloquium Observatory (Genf, Schweiz, 17.4.) SFB-Kolloquium DESY (Hamburg, 21.6.) – Kolloquium GSI (Darmstadt, 11.7.) – Kolloquium TRIUMF (Vancouver, Kanada, 17.8.) Universität Kolloquium (Potsdam, 11.10.) – Universität Kolloquium (Uppsala, Sweden, 5.12.)

G. Kauffmann: Kolloquium, Royal Observatory Edinburgh

A. Maselli:

– IEEC, Barcelona, Spanien, 31.06 – TIFR, Mumbai, India, 23.03 – RRI, Bangalore, India, 20.03

V. Wild:

– “Bursty Stellar populations and AGN in galaxy bulges” – Universität Hertfordshire (3.8.),

– Universität Central Lancashire (11.10.) – Liverpool John Moors Universität (12.10) – Durham Universität (17.10.) – Edinburgh Universität (18.10.)

6.5 Kooperationen

E. Müller und H.-Th. Janka vom MPA sind mit zwei Teilprojekten am Sonderforschungsbereich/Transregio 7, “Gravitationswellenastronomie” beteiligt (Verwaltung des SFB in Jena) Der SFB beschäftigt sich hauptsächlich mit der theoretischen Modellierung der kosmischen Quellen der Gravitationsstrahlung, der Verbesserung des Detektorenkonzeptes und der Auswertung der zu erwartenden Gravitationswellensignale. (Beteiligte Institute: Univ. Hannover, Univ. Tübingen, Univ. Jena)

H.-Th. Janka hat in dem neuen Neutrino-Sonderforschungsbereich (TR27) ein Teilprojekt. Der SFB wird vom Physik-Department der TU München verwaltet. Beteiligte Institute sind: Univ. Karlsruhe, Univ. Tübingen, MPI f. Physik München, MPI f. Kernphysik Heidelberg. Nach den jüngsten Erfolgen in der Neutrino-Physik greift dieser SFB zentrale Themen, sowohl im Experiment als auch in der Theorie auf.

S. White und W. Hillebrandt sind in dem Transregio TR33 “Dunkles Universum” mit Teilprojekten involviert. Beteiligte Institute sind: Univ. Heidelberg, Univ. Bonn und Ludwig-Maximilians-Univ. München.

A. Asplund, W. Hillebrandt, S. White u.v.m. Excellence Cluster Universe - Origin and Structure of the Universe - Beteiligte Institute: Ludwig-Maximilians-Univ. München, Technische Univ. München, ESO sowie die Max-Planck Institute f. Astrophysik, extraterrestrische Physik, Plasmaphysik, Halbleiterlabor Neuperlach

6.6 EU Netzwerke - 2006 aktiv:

– “Planck Surveyor” (S. White);

– Early Stage Training Site (Marie Curie Program) in the European Association for research in Astronomy (EARA). (S. White, H. Spruit)

– Joint Research Activity High Time Resolution Astronomy in the Optical-Infrared Coordination Network for Astronomy in OPTICON II(FP6 I3 Program) (H. Spruit)
 – “Multi-wavelength Analysis of Galaxy Populations (MAGPOP)”, – (G. Kauffmann) –
 “Marie Curie Site at the IMPRS in Astrophysics (International – Max-Planck Research School) S. White.

6.7 Andere Netzwerke

“Alfa-Lenac” Latein-Amerikanisch-Europäisches Netzwerk für Astrophysik und Kosmologie (S. White)

6.8 Sonstige Reisen

J.S. Bolton: School of Physics, Universität Melbourne (19.11.07–18.01.08)

M.P. Bottino: XIX Canary Islands Winter School of Astrophysics, Tenerife (19.11.–30.11)

B. Catinella: Cornell University, Ithaca, NY, USA (29.10 – 23.11)

E. Churazov: Space Research Institute, Moskau (07.03.–27.03.,23.06.–18.07).

G. H. F. Dierksen: Nihon Univ., Funabashi, Japan (27.09–05.12.)

D. Giannios: The Canadian Institute for Theoretical Physics, Toronto, Kanada (28.04.–25.05.)

W. Hillebrandt: KITP, UC Santa Barbara, (9.2. – 26.3.)

G. Kauffmann: Aspen Center for Physics, Colorado (06.06.–26.06.).

F. Kupka: Obs. de Paris-Meudon, Meudon, Frankreich, (2.5.–14.5.)

A. Maselli: Inter University Center for Astronomy and Astrophysics, Pune, Indien (19.02.–25.02.)

P. Mazzali: KITP, Universität California Santa Barbara, USA (1.2.-15.4. und 1.11.-15.12.)

S. Sazonov: Space Research Institute, Moskau (29.7.–21.8.).

V. Wild: Johns Hopkins University, Baltimore (30.1.–23.2.)

7 Veröffentlichungen

7.1 In Zeitschriften und Büchern

Adelman-McCarthy, J. K., M.A. Agüeros et al. (incl. S. White): The Fifth Data Release of the Sloan Digital Sky Survey. *Astrophys. J. Suppl.* **172**, 634-644, (2007).

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