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# Garching

## Max-Planck-Institut für Astrophysik

Karl-Schwarzschild-Straße 1, Postfach 1317, 85741 Garching,  
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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:*

W. Hillebrandt [-2200], R. Sunyaev [-2244] (Geschäftsführung bis 31.12.2005), S.D.M. White [-2211] (Geschäftsführung ab 1.1.2006).

##### *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:*

M.A. Aloy, A.J. Bandy, J. Ballot (seit 1.10.), J. Blaizot, G. Börner, S. Charlot (bis 31.8.), J. Chluba (seit 1.7.) B. Ciardi, E. Churazov, L. Dessart (bis 28.2.), T. Di Matteo (bis 31.1.), H. Dimmelmeier, K. Dolag, T. Enßlin, D. Gadotti (seit 15.9.), L. Gao (bis 30.9.), M. Gilfanov, B. Groves, E. Hayashi, H.-T. Janka, G. Kauffmann, K. Kifonidis, C. Kobayashi (bis 30.9.), F. Kupka, L.X. Li, A. Maselli (seit 1.8.), Z. Meliani (seit 15.9.), B. Metcalf (seit 15.9.), A. Mizuta (seit 1.8.) A. Merloni, O. Möller, T. Morris (seit 1.12.) E. Müller, S. Nayakshin (bis 31.7.), R. Oechslin, P. Popowski (bis 14.10.), M. Revnivtsev, H. Ritter, F. Röpke, H. Sandvik, S. Sazonov, B. Schäfer (bis 30.9.), S. Sim (seit 1.9.), V. Springel, M. Stehle (bis 31.10.), H.C. Spruit, A. Watts (seit 1.10.), A. Weiss, V. Wild (seit 17.10.).

##### *Sofja Kovalevskaja Programm*

S. Charlot (Preisträger, bis 31.8.), G. De Lucia, B. Panter.

##### *Alexander von Humboldt Stipendiaten:*

P. Madau (1.6.–31.7. und 1.-31.12.), J. Navarro (bis 28.2.), A. Szalay (1.3.–31.7.)

##### *EU-Stipendiaten*

A. Ferguson (bis 31.1.), D. Giannios, C. Hernandez-Monteagudo (bis 14.3.), Z. Meliani (seit 15.9.), A. Moretti, T. Morris (seit 15.8.), E. Rasia (15.1.–14.4.), E. M. Rossi (bis 31.10.), A. Pastorello, D. Sauer, M. Topinka (seit 1.3.), V. Wild (seit 17.10.).

##### *Doktoranden:*

A. Arcones (IMPRS), M. Baldi (IMPRS, seit 1.9.), R. Buras (MPA bis 30.6.), J. Chluba (IMPRS, bis 30.6.), D. Croton (IMPRS, bis 30.10.), J. Cuadra (IMPRS), D. Docenko (IMPRS), J. Dunkel (DFG, seit 1.1.) A. Gallazzi (IMPRS), M. Gieseler (MPA), N.J. Hammer (MPA, seit 15.1.), G. Hütsi (IMPRS), L. Iapichino (EU/MPA bis 31.8.), T. Jaffe (IMPRS), M. Jubelgas (MPA), F. Kitaura (IMPRS), A. Kitsikis (IMPRS), M. Kitzbichler (IMPRS), U. Maio (IMPRS, seit 1.9.), A. Marek (IMPRS), M. Mocak (IMPRS, seit 1.9.).

## 1.2 Personelle Veränderungen

M.A. Aloy: Ramón y Cajal Stipendiat am Astronomie Department, Universität Valencia.

B. Ciardi: "Tenure track Stelle" am MPA.

– DFG Förderung für eine zweijährige Postdoctorandenstelle.

J. Dunkel: SCOR-Preis für Aktuarwissenschaften (2. Preis) der SCOR Rückversicherungsgruppe in Zusammenarbeit mit der Universität Ulm

G. Kauffmann: DFG Förderung für eine zweijährige Postdoctorandenstelle.

A. Moretti: Ehrenhafte Erwähnung der "Italian Astronomical Society" für die beste italienische Doktorarbeit.

V. Springel: NANO Spezialpreis 2005 für wissenschaftliche Visualisierung.

S.D.M. White: – Max-Planck Preis für internationale Kooperation.

– Blauuw Professor, Universität of Groningen.

– an die Akademie deutscher Naturforscher, Leopoldina gewählt.

– Dannie Heineman Preis der "American Astronomical Society".

– Goldmedaille der "Royal Astronomical Society".

## 1.3 Gebäude und Bibliothek

Die Bibliothek befindet sich im Astrogebäude 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 2 Jahren in der Bibliothek eingeführt.

## 2 Gäste

Vadim Arefiev, (IKI Moskau), 8.11.–20.12.; Dominique Aubert, (Univ. Strasbourg), 1.5.–30.9. ; Petr Baklanov, (Sternberg Inst. Moskau), 29.4.–31.5.; Eduardo Beffermann, (Univ. Catolica de Chile), 10.1.–9.6. ; Vasily Belokurov, (IOA Cambridge, England), 26.6.–11.7.; Sergey Blinnikov, (Sternberg Inst. Moskau), 1.3.–30.11.; M. Boylan-Kolchin, (Berkeley, USA), 29.5.–18.6. ; Jonathan Braithwaite, seit 1.10. ; Jarle Brinchmann, (Univ. de Porto, Portugal), 18.5.–30.5.; Tamas Budavari, (John Hopkins Univ. USA), 24.4.–23.5. ; Michael Busha, (Univ. of Michigan, USA); Paula Coelho, (Sao Paulo, Brazil), 1.1.–31.12.; Tiziana Di Matteo, (CMU Pittsburgh, USA), 2.5.–23.5.; Ekatarina Filippova, (IKI, Moskau), 1.7.–1.9.; Sergey Grebenev, (IKI, Moskau), 25.11.–25.12.; Petr Heinzel, (Ondrejov, Czech Republic), 25.4.–9.5.; Carlos Hernandez-Monteagudo, (Univ. of Pennsylvania, US), 11.5.–1.6.; Yonghui Hou, (Shanghai Obs. China), bis 28.2.; Nail Inogamov, (Landau Inst. Moskau), 15.10.–15.12.; Patrik Jonsson, (UC Santa Cruz, USA), 10.11.–15.12.; Roman Krivonos, (IKI Moskau), 7.2.–6.5.; 16.6.–16.10.; Igor Kryukov, (Moskau, Russland), 5.9. - 5.10.; Shri Kulkarni, (Caltech, USA), 5.7.–4.8.; Fabrice Lamareille, (Toulouse Observatory), 1.03.–31.05.; Marcelo Lares, (IATE Cordoba, Argentina), 16.8.–16.11.; Yang-Shyang Li, (Shanghai Obs. China), 10.4.–28.5.; Cheng Li, (Hefei, China), seit 19.8.; Alexander Lutovinov, (IKI Moskau), 25.9.–25.11.; Chung-Pei Ma, (Berkeley, USA), 30.5.–18.6.; Kenichi Maeda, (Univ. of Tokyo, Japan), 1.8.–19.8.; Matteo Maturi, (Padova, Italien), 1.2.–30.4.; Paolo Mazzali, (Trieste, Italien), 1.1.–31.12.; Attila Meszaros, (CESNET, Praha, Czech Republic), 24.1.–31.3.; , 1.6.–11.7.; Petar Mimica, (Mimice, Croatia), 1.9.–31.10.; Sergei Molkov, (IKI Moskau), 12.1.–11.6.; Dimitri Nadezhin, (ITEP Moskau), 14.4.–16.5.; Josef Paldus, (Waterloo, Kanada), 01.05.–30.06.; Igor Panov, (ITEP, Moskau, Russland), 1.10.–30.11. ; Ary Rodriguez, (INAOEP, Pueblo, Mexico), 12.2.– 11.5.; Alberto Rubino-Martin, (Tenerife, Spanien), 25.1.–24.2.; 5.5.–19.5.; 13.7.–31.7.; Cecilia Scanapieco, (Buenos Aires, Argentina), 10.5.–9.9.; Alex Schekochihin, (Cambridge, England), 22.7.–30.7.; Aldo Serenelli, (Princeton, USA), 10.7.–14.8.; Nicolai Shakura, (Sternberg Inst. Moskau), 1.9.–30.9.;

Shiyin Shen, (Shanghai Obs., China), 1.10.–31.12.; Pavel Shtykovskii, (IKI, Moskau, Russland), 22.03.–29.04.; , 20.09.–16.12.; Analia Smith Castelli, (Buenos Aires, Argentina), 1.3.–30.4.; Elena Sorokina, (Sternberg Inst. Moskau), 25.8.–24.9.; Linda Sparke, (Univ. of Wisconsin, USA), 3.1.–31.5.; Masaomi Tanaka, (Univ. of Tokyo, Japan), 1.8.–19.8.; Alexei Tolstov, (ITEP Moskau), 1.6.–26.7.; Luca Tonatore, (SISSA Trieste, Italien), 1.7.–31.7.; Sergei Tsygankov, (IKI Moskau), 20.5.–20.11.; Victor Utrobin, (ITEP Moskau), seit 1.12.; Oscar Ventura, (Montevideo, Uruguay), 08.06.–29.08.; Corina Vogt, (Dwingaloo, NL), 16.4.–13.5.; Rolf Walder, (Zürich, Switzerland), seit 15.09.;; Huiyuan Wang, (Hefei, China), seit 19.8.; Ronald Webbink, (Urbana, IL, USA), 1.1.–30.6.; Stanford Woosley, (UCOLICK, Santa Cruz), 1.8.–31.8.; Xiaohu Yang, (Shanghai Obs. China), 17.10.–17.11.;

### 3 Lehrtätigkeit, Prüfungen und Gremientätigkeit

#### 3.1 Lehrtätigkeiten

W. Hillebrandt: “Physikalische Kosmologie”, WS04/05, TU München

W. Hillebrandt und E. Müller: “Grundlagen und Numerische Verfahren” SS05 TU München

W. Hillebrandt und E. Müller: “Weisse Zwerge, Neutronensterne und Schwarze Löcher” WS 05/06, TU München

F. Kupka, WS 04/05 “Einführung in die Astrophysik” und “Einführung in die theoretische Astrophysik” SS05 TU München,

E. Müller, WS04/05 und SS05, TU München

H. Ritter, WS04/05, SS05 und WS05/06 LMU München

F. K. Röpke, im SS05 “Physics Tutorial for Electrical Engineers” und “Physical Cosmology” im WS 05/06, TU München

A. Weiss, WS 04/05, “Highlights der Astronomie” Universität Augsburg.

A. Weiss u. H. Ritter, WS 05/06, LMU München

#### 3.2 Prüfungen

Es wurden 7 Diplomprüfungen im Wahlfach Astrophysik und 8 Promotionsprüfungen abgenommen.

#### 3.3 Gremientätigkeit

T. Banday: Mitglied von IDIS Arbeitsgruppe für das ESA-Planck Satellit Projekt  
 – Planck Koordinator für die Technische Arbeitsgruppe (WT 1.7) on “Methods for detection of systematics”.  
 – Planck Koordinator für die Technische Arbeitsgruppe (WT 4.1) on “Effect of systematics on Non-Gaussianity”  
 – Planck Teilkordinator (WT 5.5.4 ) on the “Integrated Sachs-Wolfe Effect”  
 – Planck Koordinator für die Technische Arbeitsgruppe (WT 8) on “Planck and the Virtual Observatory”.  
 – Planck Koordinator für die Technische Arbeitsgruppe (WT 7.4) on “Simulation and analysis tools for polarised galactic emission”  
 – Mitorganisator des EU TMR Netzwerks CMBNet working group on “Large data set analyses”  
 – Mitglied des advisory panel von NASA’s CMB Data Center, the Legacy Archive for Microwave Background Data Analysis (LAMBDA).

S. Charlot: – Mitglied des “HST Cycle 12 TAC Galaxy Panel”  
 – Mitglied der “JWST NIRSpec instrument science team”  
 – Mitglied des “VLT/VIRMOS Wissenschaftsteam”

– Mitglied des “GALEX Wissenschaftsteam”

E. Churazov: – Mitglied des “INTEGRAL AO-2 peer review”

– Mitglied des “Chandra AO-7 Peer Review”

J. Cuadra: Beauftragter für IMPRS Studenten im Executive Komitee

G. H. F. Diercksen: – Deutscher Delegierter, COST Technisches Komitee “Telecommunication, Information Science and Technology”

– Vorsitzender, COST Action 282 “Knowledge Exploration in Science and Technology”

T.A. Enßlin: – Mitglied des “Planck-IDIS Development Team”

– Mitglied des “AstroGrid-D Steuerungsausschuss”

W. Hillebrandt: – Projektkoordinator, Netzwerk “The Physics of Type Ia Supernovae”

– Vorsitzender von Supernova Arbeitsgruppe, IAU, Commission VIII

– Fachbeirat, MPI für Gravitationsphysik (Albert Einstein Institut), Golm

– Vorsitzender, Beirat des Rechenzentrums Garching

– Stellvertretender Sprecher des Sonderforschungsbereich 375 “Astro-Teilchen Physik” (TU),

– Mitherausgeber, Lecture Notes in Physics

– Mitglied, DFG Senat Komitee on Collaborative Research Centres

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

P. Mazzali: RTN on SNe Ia. Wissenschaftlicher Sekretär.

E. Müller: – Vorstandsmitglied des Sonderforschungsbereichs “Transregio Gravitationswellenastronomie”

– Mitglied des Führungsausschusses der NaT-Arbeitsgruppe Garching (Robert Bosch Stiftung)

– Mitglied Benutzerkomitee und Beirat am Rechenzentrum Garching (RZG/IPP)

– Mitglied des MPA “tenure track” Komitee

H.C. Spruit: – Mitglied des Redaktionsteams, Solar Physics journal,

R. Sunyaev: – Mitglied des Space Council of Russia Academy of Sciences, – 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: Mitarbeitervertreter in der CPT-Sektion der MPG

S.D.M. White: – Externer Fachbeirat, Physik Department, Univ. Bonn.

– Mitglied des Kuratoriums, Physik Journal.

– Mitglied des Beratungsausschusses “Canadian Inst. for Advanced Research, Cosmology and Gravity Program.

– Kosmologie Preis, beratendes, Peter Gruber Stiftung

– Mitglied des Advisory Council, Sloan Digital Sky Survey

– Mitglied des Fachbeirats, Univ. Bonn, Physikdepartment.

– Mitglied Garching/München IMPRS Executive Komitee

#### 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 2005 sind folgende wissenschaftlichen Aktivitäten in englischer Sprache ausführlich beschrieben:

- 4.1 Stellare Physik
- 4.2 Nukleare und Neutrino-Astrophysik
- 4.3 Numerische Hydrodynamik
- 4.4 Hochenergie Astrophysik
- 4.5 Akkretion
- 4.6 Wechselwirkung von Strahlung mit Materie
- 4.7 Galaxienentwicklung und Entwicklung aktiver Galaxienkerne
- 4.8 Großräumige Strukturen, Galaxienhaufen und Intergalaktisches Medium
- 4.9 Gravitationslinseneffekt
- 4.10 Untersuchungen des kosmischen Mikrowellenhintergrunds
- 4.11 Quantenmechanik von Atomen und Molekülen, Astrochemie

## 5 Diplomarbeiten, Dissertationen, Habilitationen

### 5.1 Diplomarbeiten

*Abgeschlossen:*

F. Meissner: "Modeling of Color-Magnitude-Diagrams of Galactic Globular Clusters" Ludwig-Maximilians-Universität München.

B. Müller: "Core Collapse Supernovae and Supermassive Stars: Improved Approximations to General Relativity" Technische Universität München.

A. Waelkens: "Models of polarized Synchrotron emission as a CMB foreground" Ludwig-Maximilians-Universität München.

### 5.2 Dissertationen

*Abgeschlossen:*

Robert Buras: "Multi-dimensional simulations of core-collapse supernovae with a variable Eddington factor technique for energy-dependent neutrino transport", Technische Universität München.

Jens Chluba: "Spectral Distortions of the Cosmic Microwave Background", Ludwig-Maximilians-Universität München.

Darren Croton: "Galaxy Formation and Evolution: the local galaxy population as a cosmological probe", Ludwig-Maximilians-Universität München.

Alessia Moretti: "Extragalactic globular cluster systems: M104 and M33" Universität Padua.

Christoph Pfrommer: "On the role of cosmic rays in clusters of galaxies", Ludwig-Maximilians-Universität München.

Daniel Sauer: "Steps toward a consistent NLTE treatment of the radiative transfer in Type Ia Supernovae", Technische Universität München.

Bjoern Malte Schaefer: "Methods for detecting and characterising clusters of galaxies", Ludwig-Maximilians-Universität München.

Max Stritzinger: "Type Ia Supernovae: Bolometric properties and new tools for photometric techniques." Technische Universität München.

*Laufend:*

A. Arcones: "Nukleosynthese in Supernova-Explosionen massereicher Sterne und Gamma-Blitz-Quellen" Technische Universität; München.

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

J. Cuadra: "Two-phase accretion in AGN and our Galactic Center region" Ludwig-Maximilians-Universität; München.

J. Chluba: "Energy release in the early universe and distortions of the CMB energy spectrum" Ludwig-Maximilians-Universität; München.

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

M. Gieseler: "Theoretische Grundlagen von Simple Stellar Population sektren" Ludwig-Maximilians-Universität; München.

N. Hammer: "Axis-free methods for hydrodynamical simulations using spherical grids" Technische Universität; München.

S. Hilbert: "Gravitational Lensing with the Millennium Run" Ludwig-Maximilians-Universität; München.

P. Hultsch: "Spektraldiagnostik von Supernovae Ia in den späten Phasen" Ludwig-Maximilians-Universität; München.

G. Hütsi: "Superclustering and Secondary CMB Anisotropies", Ludwig-Maximilians-Universität; München.

T. Jaffe: "Using phase analysis to detect non-Gaussianity in the cosmic microwave background radiation" Ludwig-Maximilians-Universität; München.

F. Kitaura: "Mapping the Cosmological Large Scale Structure" 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.

U. Maio: "Simulations of cosmic structure formation" Ludwig-Maximilians-Universität; München.

A. Marek: "Multi-dimensional simulations of core collapse supernovae with different models for neutron star matter and microphysical processes" Technische Universität; München.

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.

P. Rebusco: "The impact of supermassive black holes in elliptical galaxies and clusters" Ludwig-Maximilians-Universität; München.

M. Rigbi: "Observational consequences of the chemical elements production in the epoch of reionization of the universe" Ludwig-Maximilians-Universität; München.

L. Scheck: "Numerische Simulationen von Typ II - Supernovae" Technische Universität München.

M. Stritzinger: "Calibrations of Type Ia Supernovae Lightcurves" Ludwig-Maximilians-Universität; München.

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

A. von der Linden: “Galaxy Evolution from the EDisCS and SDSS Surveys” Ludwig-Maximilians-Universität; München.

R. Voss: “X-ray binaries in elliptical galaxies” 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.

B. Zink: “Gravitational waves from black hole formation” Ludwig-Maximilians-Universität; München.

## 6 Tagungen, Projekte am Institut und Beobachtungszeiten

### 6.1 Tagungen und Veranstaltungen

A.J. Banday: – Planck Joint HFI/LFI Consortium meeting, (26.1.–28.1.)  
– Joint MPA/ESO/MPE/USM Cosmology Konferenz “Open Questions in Cosmology: the first billion years” (22.8.–26.8.)

J. Blaizot, G. De Lucia, B. Groves, E. Hayashi, G. Kauffmann and B. Panter: Ringberg conference “From Simulations to Surveys” (27.6.–1.7.)

E. Churazov, M. Gilfanov and S. Sazonov: Workshop “High Energy Astrophysics Today and Tomorrow (HEA-2005)”, Space Research Institute, Moskau, Russland (26.12.–28.12.)

B. Ciardi: – “Open Questions in Cosmology: the First Billion Years”, Garching, (22.8.–26.8.)

– “RTN Network: The Physics of the Intergalactic Medium”, Seon, (28.8.–1.9.)

– “Carbon-Rich Ultra Metal Poor Stars in the Galactic Halo”, Ringberg, (28.11.–2.12.)

G. Deco and G. H. F. Dierksen: “Computational Neuroscience: Understanding Brain Functions”, Barcelona, Spanien, (01.06. – 03.06.)

W. Hillebrandt und F. Kupka: – Workshop on “Interdisciplinary Aspects of Turbulence”, Ringberg Schloß, Tegernsee (18.4.–22.4.)

W. Hillebrandt: RTN Annual Meeting “The Physics of Type Ia Supernovae”, MPA Garching (14.9.–16.9.)

A. von der Linden: the International Astronomical Youth Camp 2005, Zavadka nad Hronom, Slovakia, (24.7.–13.8.)

E. Müller: Spring meeting of the DFG SFB-Transregio “Gravitationswellenastronomie”, MPA, Garching (21.2.–22.2.)

A. Pastorello: Young researchers RTN meeting in Stockholm, Schweden (20.6.–22.6.)

H. C. Spruit: KITP workshop on “Accretion disks and jets”, Kavli Institute for Theoretical Physics, Santa Barbara, USA (1.4.–31.7.)

S.D.M. White: – IAU Colloquium 199, Shanghai (14.3.–18.3.)

– IAU Symposium 228, Paris (23.3.–27.3.)

– ICTP workshop on Computational Cosmology, Trieste (31.5.–3.6.)

– IAP Colloquium on Dark Matter Structures, Paris (4.7.–9.7.)

– Nearly Normal Galaxies 2005, Santa Cruz (8.8.–12.8.)

– Kloster Seon workshop of the IGM Training Network (28.8.–1.9.) – Open Questions in Cosmology, Garching (22.8.–26.8.)

## 6.2 Beobachtungszeiten

T.A. Enßlin, T. Erben (IAUB), H. Böhringer (MPE): 8h in Nov., ESO 2.2m WFI, La Silla, Chile, A support for weak lensing observation of the peculiar galaxy filament ZwCl 2341.1+0000;

W. Hillebrandt (PI): – Calar Alto, Spanien, 10 nights on the 2.2m and 3 nights on the 3.5m telescope, ToO mode, Photometry and spectroscopy of nearby Type Ia Supernovae – ESO, La Silla, Chile, 2.2m Telescope, WIFL, 25 hours, Photometry of nearby Type Ia supernovae

– (CoI): NOT, La Palma, 10 nights ToO, Photometry and spectroscopy of nearby Type Ia supernovae

– (CoI): WHT, La Palma, 5 nights, Optical and NIR spectroscopy of nearby Type Ia supernovae

– (CoI): LT, La Palma, 5 nights ToO, Optical and NIR photometry of nearby Type Ia supernova

## 6.3 Übersichtsvorträge

M.A. Aloy: JGRG15 Workshop “Progenitors of gamma-ray bursts” (Tokyo, 28.11.–02.12.)

G. Börner: – Sophia University, Tokyo, Japan (13.1.)

– Tokyo University, Japan (17.1.)

– Kyoto University, Japan (27.1.)

– Tohoku University, Sendai (22.2.) – Universität Magdeburg (3.5.)

– Technische Universität, Darmstadt (9.12.)

S. Charlot: – XXVth Rencontres de Moriond “When UV Meets IR: a History of Star Formation” (La Thuile, 7.3.–11.3.)

– International Workshop on “Stellar Populations: a Rosetta Stone for Galaxy Formation” (Schloss Ringberg, 4.8.–8.8.)

E. Churazov: – GLAST Mini-symposium on the Galactic Center Region, (Stanford, USA, 1.09)

– “The X-ray Universe 2005” Symposium, (El Escorial, Spanien, 26.09-30.09)

B. Ciardi: “Konferenz on Computational Cosmology” (Trieste, 31.5.–4.6.)

– “Reionizing the Universe: the Epoch of Reionization and the Physics of the IGM” (Groningen, 27.6.–1.7.)

– “Stellar Evolution at Low Metallicity: Mass Loss, Explosion, Cosmology” (Tartu, 15.8.–19.8.)

– “Carbon-Rich Ultra Metal Poor Stars in the Galactic Halo” (Ringberg, 28.11.–2.12.)

G. De Lucia: – “The role of wide and deep multi-wavelength surveys in understanding galaxy evolution” (Ringberg Schloß, 29.3.-1.4.)

– “The Origin of the Hubble Sequence” (Vulcano Island, 6.6.-12.6.)

– “From Simulations to Surveys” (Ringberg Schloß, 26.6.-1.7.)

– “Distant clusters of galaxies” (Ringberg Schloß, 24.10.-28.10.)

– “Workshop on Dark Matter Substructures” (Massachusetts Institute of Technology, 6.-9.10.; 5.-9.12.)

T.A. Enßlin: International Konferenz on ‘The Origin and Evolution of Cosmic Magnetism’ “Future magnetic fields studies using the Planck Surveyor experiment” (Bologna, 29.8.–2.9.)

M. Gilfanov: – A meeting in honor of Ed van den Heuvel “A Life with stars”, (Amsterdam, 22.08.–26.08.)

– International conference “High Energy in the Highlands”, (Fort William, Schottland, 27.06–01.07.)

– Nordita Workdays on QPOs (Nordita, Kopenhagen, Dänemark, 24.02.–01.03.)



W. Hillebrandt: – Ringberg Workshop on “Current Topics in Astroparticle Physics” (Ringberg Schloß, 25.4.–29.4.)  
 – 206th Meeting of the American Astronomical Society (Minneapolis, USA, 29.5.–2.6.)  
 – 59th Yamada Konferenz “Inflating horizon of particle astrophysics and cosmology” (Tokyo, Japan, 20.6.–24.6.)  
 – ‘A Life with Stars’, Konferenz in Honor of Ed van den Heuvel (Amsterdam, Holland, 22.8.–26.8.)

H.-Th. Janka: – International Konferenz “Neutron Stars at the Crossroads of Fundamental Physics” (Vancouver, 9.8.–13.8.)  
 – Universität Barcelona (Barcelona, 20.4.)  
 – MPI für Astrophysik, SFB-TR7 (Garching, 6.6.)  
 – TU München (Garching, 10.11.)

G. Kauffmann: – STScI Workshop on “The Galaxy IGM Ecosystem” (Baltimore, 7.3.–9.3.)  
 – G. Kauffmann: “Superunification of active galactic nuclei: Black Hole Mass, Spin and Accretion Rate”(Elba, 25.5.–28.5.)  
 – “The Fabulous Destiny of Galaxies”, (Marseille, 20.6.–24.6.)  
 – “Nearly Normal Galaxies”, (Santa Cruz, 7.8.–13.8.)  
 – “QSO Host Galaxies: Evolution and Environment”, (Leiden, 22.8.–26.8.)

F. Kupka: MONS 2005 “Element Stratification in stars: 40 Years of Atomic Diffusion”, (Chateau de Mons, Frankreich, 6.6.–10.6.)

P. Mazzali: “Hypernovae and Gamma-Ray bursts” at the meeting “Triggering Relativistic Jets” (Cozumel, 2.4.–5.4.)  
 – “Asphericity in Supernova Explosions” at the semiannual Meeting of the American Astron. Soc. (Minneapolis, 1.6.–4.6.)

A. Merloni: – “Superunification of Active Galactic Nuclei: Black Hole Mass, Spin and Accretion Rate” (Elba Island, Italien, 25.5-28.5)  
 – “High Energy in the Highlands” (Fort William, Schottland, England, 27.6-1.7)

E. Müller: – Third Tapas Workshop on “Jet physics”, (Granada, Spanien 21.4.–23.4.)  
 – 59th Yamada conference on “Inflating horizon of particle astrophysics and cosmology”, (Tokyo, Japan 20.6.–25.6.)  
 – International Konferenz on “General relativity”, (Jena, 26.9.-29.9.)  
 – IOP meeting on “Supernovae”, (Edinburgh, England, 26.10.)

V. Springel: IPAM Konferenz “N-Body problems in Astrophysics” (Los Angeles, 18.-22.4.)  
 – Konferenz on “Computational Cosmology” (Trieste, 31.05.-5.6.)  
 – Konferenz on “Nearly Normal Galaxies” (Santa Cruz, 8.-12.8.)  
 – Workshop on “Dark Matter Substructure” (MIT, 17.10.)  
 – ESO/MPA Workshop on “Carbon Rich Ultra Metal-Poor Stars in the Galactic Halo” (Ringberg, 28.11.-2.12.)

R. Sunyaev: XXVIIIth Spanish Relativity Meeting “A Century of Relativity Physics” (Oviedo, 4.9.–11.9.)  
 – “A Life with stars”, Meeting in honor of Ed van den Heuvel, (Amsterdam 20.8.–25.8.)  
 – August 40 Years of Cosmic Microwave Background, (Villa Montragone, Rome, 18.10.–19.10.)  
 – Joint Astrophysical Colloquium, (ESO Garching, 10.03)  
 – Institute for Advanced Study, (Princeton, April)  
 – National Radioastronomical Observatory, (Charlottesville, Va, October)  
 – National Radioastronomical Observatory, (Socorro, NM, November)  
 – University of Pennsylvania, (Philadelphia, November)  
 – Invited lecture, Academy of Sciences of Uzbekistan, (Tashkent, 8.6.)  
 – Invited lecture, Kazan State University, (Kazan, Russia, 1.9.)  
 – “High Energy Astrophysics, 2005”, Space Research Institute, (Moscow, 26.12.)

- S.D.M. White: – Invited Plenary Talk, National Astronomy Meeting (Birmingham, England, 8.4.)  
 – ICTP workshop on Computational Cosmology (Trieste, 31.5.–3.6.)  
 – “Mass and Mystery in the Local Group” (Cambridge, 18.7.–22.7.)  
 – Nearly Normal Galaxies 2005 (Santa Cruz, 8.8.–12.8.)  
 – Open Questions in Cosmology (Garching 22.8.–26.8.)  
 – MIT/Kavli workshop on dark matter substructures (Cambridge, USA, 1.10.–2.10.)  
 – Introduction, Ringberg workshop on galaxy clusters (Schloss Ringberg, 24.10.–28.10)

#### 6.4 Kolloquiums Vorträge

- G. Börner: Max-von Laue Kolloquium, Physikalische Gesellschaft Berlin (23.6.)  
 G. De Lucia: – Osservatorio Astronomico di Capodimonte (Naples, 7.4.)  
 – Universität Sussex (Brighton, 28.4.)  
 – Osservatorio Astronomico di Padova (Padova, 4.5.)  
 – Yale University (New Haven CT, 30.9.)  
 M. Gilfanov: COSPAR Colloquium on Spectra and Timing of Compact X-ray Binaries, (Mumbai, Indien, 17.01.–21.01.)  
 A. Merloni: Colloquium at Physikdepartment, University Rome 3 (Rome, Italien, 18.5)  
 E. Müller: Albert-Einstein-Institut, Institute colloquium, (Golm, 9.11.)  
 V. Springel: Astrophysical Colloquium (Harvard-ITC, 19.10.)  
 Astrophysical Colloquium (Harvard-CfA, 25.10.)  
 – Astrophysical Colloquium (Princeton University, 26.10.)  
 – Astrophysical Colloquium (Bonn, 2.12.)  
 S.D.M. White: – Summary talk, IAU Colloquium 199 (Shanghai, 14.3.–18.3.)  
 – IAP Colloquium on Dark Matter Structures (Paris 4.7.–9.7.)

#### 6.5 Öffentliche Vorträge

- G. Börner: – Katholisches Bildungszentrum, Regenstauf (5.10.) – Nixdorf Forum Paderborn (27.10.) – G. Börner: Volkssternwarte München (16.12.)

#### 6.6 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)

G. Börner, H.-Th. Janka, W. Hillebrandt und S. White sind mit einigen Teilprojekten am Sonderforschungsbereich “Astro-Teilchenphysik” (SFB 375) beteiligt. W. Hillebrandt ist stellvertretender Leiter des SFB’s. Aufgabe des SFB’s ist die Forschung auf dem Gebiet der Astro-Teilchenphysik. (Beteiligte Institute: Physik-Department (TU), Sektion der Physik (LMU), Univ. Sternwarte (LMU) und Max-Planck-Inst. f. Physik in München).

Folgende EU Netzwerke waren 2005 aktiv:

- “Thermonuclear Supernovae and Cosmology” (W. Hillebrandt);  
 “Cosmic Microwave Background” bis 31.1. (R. Sunyaev);  
 “Gamma-Ray Bursts” (R. Sunyaev);  
 “Planck Surveyor” (S. White);  
 “Optical-Infrared Co-ordination Network for Astronomy (OPTICON)” (H.Spruit)  
 “Multi-wavelength Analysis of Galaxy Populations (MAGPOP)”, (G. Kauffmann)

## 6.7 Sonstige Reisen

- M.A. Aloy: Universität Valencia, Spanien (01.09.–30.09.)
- G. Börner: Physikdepartment, Universität Tokyo (01.01.–28.02.)
- J. Cuadra: Department of Physics and Astronomy, Universität Leicester (12.09.–30.09.)
- E. Churazov: Space Research Institute, Moskau (12.03.–15.04., 3.10.–2.11.).
- G. H. F. Dierksen: – Universität Montevideo, (30.01. – 23.03.).  
– Universität Sao Paulo, (27.09. – 18.10., 23.11. – 07.12.).
- A. Gallazzi: Institut d’Astrophysique de Paris, Frankreich (12.09.–16.12.)
- D. Giannios: KITP, Santa Barbara (12.11–12.12.).
- M. Gilfanov: Space Research Institute, Moskau (26.05.–18.06., 29.08.–16.09.).
- E. Hayashi: Universität Victoria, Kanada (14.11.–25.11.)
- G. Kauffmann: Universität California, Berkeley (5.07.–31.07.)
- W. Kraemer: – Steacie Institute for Molecular Sciences, NRCC, Ottawa (14.03.–16.04.)  
– Center for Complex Systems, Academy of Sciences, Prague (08.09.–23.09. and 20.10.–12.11.)
- B. Metcalf: SISSA/ISAS (International School for Advanced Studies), Trieste Italien (15.11.–25.11.)
- P. Rebusco: Goddard Space Flight Center, Greenbelt (14.05.–29.05.)
- F. K. Röpké, Kavli Institute for Theoretical Physics, Santa Barbara (23.01.–12.02.)
- S. Sazonov: Space Research Institute, Moskau (6.08.–20.08.).
- S.D.M. White: Kapetyn Institute, Groningen (14.2.–26.2., 27.3.–7.4., 10.10.–15.10.)
- B. Zink: Center for Computation and Technology, Louisiana State University, Louisiana, USA (01.02.–31.08.).

## 7 Veröffentlichungen

### 7.1 In Zeitschriften und Büchern

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## 7.2 Konferenzbeiträge

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