Bochum

Ruhr-Universität Bochum
Institut für Theoretische Physik IV
Weltraum- und Astrophysik

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1 Personal und Ausstattung

1.1 Personalstand

Professoren und Privatdozenten

Prof. Dr. Julia Becker [-23779] (seit 1.6.2009), PD. Dr. Horst Fichtner [-23786], Prof. Dr. em. Karl Schindler [-24728], Prof. Dr. Reinhard Schlickeiser [-22032], PD Dr. Andreas Shalchi, Prof. Dr. Dr. h.c. Padma Kant Shukla [-23759].

Wissenschaftliche Mitarbeiter:

Dr. Udo Arendt [-26709], Dipl.-Phys.Stefan Artmann [-26011], Dipl.-Phys. Katharina Anna Brodatzki [-27796], Dipl.-Phys. Giorgi Dalakishvili [-23457], Dr. Mark Eric Dieckmann [-23458], Dipl.-Phys. Alexander Dosch [-27869], Dipl.-Phys. Jens Dreyer [-23458], Dipl.-Phys. Frederic Effenberger [-23457], Dr. Bengt Eliasson [-23729], Dipl.-Phys. Dirk Gerbig [-26862], Dr. Fernando Haas [-23729], Dipl.-Math. Philipp Hoffmann [-26862], Dr. Jens Kleimann [-23676], Dr. Andreas Kopp [-23676], Dr. Marian Lazar [-23799], Dipl.-Phys. Michal Michno [-26011], M.Sc Martino Olivo [-23458], Dipl.-Phys. Jenny Reimchen [-27796], Dipl.-Phys. Jens Ruppel [-22051], Dr. Christian Röken [-23771], Dr. Klaus Scherer [-23676], Dipl.-Phys. Tomislav Skoda [-23799], Dr. Anne Stockem [-22051], Dr. Robert Tautz [-27263], Dipl.-Phys. Bastian Weinhorst [-23771],

Doktoranden:

Dipl.-Phys. Stefan Artmann [-26011], Dipl.-Phys. Katharina Anna Brodatzki [-27796], Dipl.-Phys. Giorgi Dalakishvili [-23457], Dipl.-Phys. Alexander Dosch [-27869], Dipl.-Phys. Jens Dreyer [-23458], Dipl.-Phys. Frederic Effenberger [-23457], Dipl.-Phys. Dirk Gerbig [-26862], Dipl.-Math. Philipp Hoffmann [-26862], Dipl.-Phys. Michal Michno [-26011], M.Sc Martino Olivo [-23458], Dipl.-Phys. Jenny Reimchen [-27796], Dipl.-Phys. Jens Ruppel [-22051], Dipl.-Phys. Tomislav Skoda [-23799], Dr. Anne Stockem [-22051], Dipl.-Phys. Bastian Weinhorst [-23771].

Diplomanden:

Stefan Artmann [-26011], Patrick Blies [-27752], Björn Eichmann [-23771], Michal Michno [-26011], Jenny Reimchen [-27796], Thomas Schablitzki [-23457], Tomislav Skoda [-23799].

Bachelor und Master:

Stephan Barra [-27263], Mustafa Caglar [-27752], Ulf Menzler, Matthias Temmen, Tobias Wiengarten, Michael Zacharias [-27869].

Sekretariat und Verwaltung:

Dipl.Soz. Wiss. Gisela Buhr [-26710].

Technisches Personal:

Kai Dietrich [-28878], Bernd Neubacher [-23798], Dominik Raulf [-28878], Patrick Tekath [-28878].

Studentische Mitarbeiter:

Stefan Artmann [-26011], Stephan Barra [-27263], Patrick Blies [-27752], Mustafa Caglar [-27752], Börn Eichmann [-23771], Michal Michno [-26011], Jenny Reimchen [-27796], Tomislav Skoda [-23799], Tobias Welz [-23676], Michael Zacharias [-27869].

1.2 Personelle Veränderungen

Ausgeschieden:

Dr. Mark Eric Dieckmann [-23458], Dipl.-Phys. Björn Eichmann [-23771], Dr. Fernando Haas [-23729], Dr. Andreas Kopp [-23676], BSc Ulf Menzler [-23729], Dr. Christian Röken [-23771], Dipl.-Phys. Thomas Schablitzki, Dr. Robert Tautz [-27263], BSc Matthias Temmen [-27752], BSc Tobias Wiengarten [-27752].

Neueinstellungen und Änderungen des Anstellungsverhältnisses:

Prof. Dr. Julia Becker [-23779], Dipl.-Phys. Stefan Artmann [-26011], cand.-phys. Stephan Barra [-27263], cand.-phys. Patrick Blies [-27752], cand.-phys. Mustafa Caglar [-27752], Dipl.-Phys. Giorgi Dalakishvili [-23457], Dipl.-Phys. Jens Dreyer [-23458], Dipl.-Phys. Frederic Effenberger [-23457], Dr. Bengt Eliasson [-23729], Dr. Jens Kleimann [-23676], Dr. Andreas Kopp [-23676], Dr. Marian Lazar [-23799], Dipl.-Phys. Michal Michno [-26011], Ulf Menzler [-23729], M.Sc Martino Olivo [-23458], Dipl.-Phys. Jenny Reimchen [-27796]. Dipl.-Phys. Thomas Schablitzki, Dipl.-Phys. Tomislav Skoda [-23799], Matthias Temmen [-27752], Tobias Wiengarten [-27752].

2 Gäste

Dr. A. Meli, 10-13.02.2009, Zusammenarbeit

Dr. T. Laitinen, University of Turku, Finnland, 9.-14.03.2009, Zusammenarbeit

M.Sc. M. Batterbee, University of Turku, Finnland, 9.-14.03.2009, Zusammenarbeit

M.Sc. G. Dalakishvili, University of Leuven, Belgien, 23.-26.06.2009, Vortrag und Zusammenarbeit

Dr. Federico Fraschetti, Univ. Paris, Juni - Juli 2009, Vortrag und Zusammenarbeit

Prof. A. A. Mamun, Pakistan, Alexander von Humboldt-Stiftung, Juli 2009, Zusammenarbeit

Dr. I. Büsching, North-West University, Potchefstroom, 17.07.2009, Südafrika, Zusammenarbeit

Dr. R. Kissmann, Universität Tübingen, 27.08.2009, Vortrag und Zusammenarbeit

Prof. R. Vainio, University of Helsinki, 30.09.-02.10.2009, Vortrag und Zusammenarbeit

Prof. Dusan Juvanovic, Stipendiat DAAD, 5.10.-31.01.2009, Zusammenarbeit

Dr. Mira Vukcevic, Universität Montenegro, 7.-12.12.2009, Zusammenarbeit

Prof. Dr. Yuri Litvinenko, University Waikato, Hamilton, Neuseeland, 01.12.2009-28.02.2010, Zusammenarbeit

3 Lehrtätigkeit, Prüfungen und Gremientätigkeit

3.1 Lehrtätigkeiten

U. Arendt: *Physik - Tutorium für Studienanfänger*, (2h), WS 08/09, SS 09, WS 09/10, *Quantenphysik auf dem Computer*, (2h), WS 08/09, *Repetitorium zu den Mathematischen Methoden der Physik*, (2h), SS 09, *Grundlagen der Mechanik und Elektrodynamik*, (4), SS 09, *Übungen zu 'Grundlagen der Mechanik und Elektrodynamik'*, (2h), SS 09, *Klassische Physik auf dem Computer*, (2h), SS 09, *Quantenphysik auf dem Computer*, (2h), WS 09/10.

J. Becker: *Einführung in die Kosmologie*, (3h), WS 09/10, *Seminar zur Theoretischen Weltraum- und Astrophysik: Cosmic Accelerators*, (2h), WS 09/10.

K. Brodatzki: *Übungen zu 'Grundlagen der Mechanik und Elektrodynamik'*, (2h), SS 09.

J. Dreyer: *Übungen zu Einführung in die Kosmologie*, (2h), WS 09/10.

F. Effenberger: *Übungen zu 'Grundlagen der Mechanik und Elektrodynamik'*, (2h), SS 09.

H. Fichtner: *Mathematische Methoden der Physik*, (4h), WS 08/09, WS 09/10, *Ergänzungen zu 'Mathematische Methoden der Physik'*, (2h), WS 08/09, WS 09/10, *Seminar zur theoretischen Weltraum- und Astrophysik*, (2h), WS 08/09, *Seminar zu laufenden wissenschaftlichen Arbeiten*, (2h), WS 08/09, SS 09, WS 09/10, *Physik - Tutorium für Studienanfänger*, (2h), WS 08/09, SS 09, WS 09/10, *Repetitorium zu den Mathematischen Methoden der Physik*, (2h), SS 09, *Grundlagen der Quantenmechanik und Statistik*, (2h), SS 09, *Theoretische Plasmaphysik*, (3h), WS 09/10, *Seminar zur Theoretischen Weltraum- und Astrophysik: Cosmic Accelerators*, (2h), WS 09/10.

D. Gerbig: *Übungen zu 'Grundlagen der Mechanik und Elektrodynamik'*, (2h), SS 09.

P. Hoffmann: *Übungen zu 'Theoretische Physik II: Elektrodynamik'*, (2h), SS 09.

C. Röken: *Übungen zu 'Theoretische Physik II: Elektrodynamik'*, (2h), SS 09.

R. Schlickeiser: *Seminar zur theoretischen Weltraum- und Astrophysik*, (2h), WS 08/09, *Seminar: Spezielle Probleme der Theoretischen Astrophysik*, (2h), WS 08/09, *Seminar zu laufenden wissenschaftlichen Arbeiten*, (2h), WS 08/09, *Theoretische Physik II: Elektrodynamik*, (4h), SS 09, *Übungen zu 'Theoretische Physik II: Elektrodynamik'*, (2h), SS 09, *Seminar zu laufenden wissenschaftlichen Arbeiten*, (2h), SS 09, *Seminar: Spezielle Probleme der Theoretischen Astrophysik*, (2h), SS 09, *Theoretische Physik I: Mechanik*, (2h), WS 09/10, *Seminar zur Theoretischen Weltraum- und Astrophysik: Cosmic Accelerators*, (2h), WS 09/10, *Seminar: Spezielle Probleme der Theoretischen Astrophysik*, (2h), WS 09/10, *Seminar zu laufenden wissenschaftlichen Arbeiten*, (2h), WS 09/10.

A. Shalchi: *Einführung in die Astroteilchenphysik*, (2h), WS 08/09, *Einführung in die Theoretische Astrophysik*, (2h), SS 09, *Spezielle Relativitätstheorie*, (2h), WS 09/10.

P.K. Shukla: *Nonlinear Plasma Waves*, (2h), SS 09.

A. Stockem: *Seminar: Spezielle Probleme der Theoretischen Astrophysik*, (2h), WS 09/10.

R.C. Tautz: *Seminar zu laufenden wissenschaftlichen Arbeiten*, (2h), WS 08/09, SS 09, *Übungen zu 'Theoretische Physik II: Elektrodynamik'*, (2h), SS 09, *Plasma-Astrophysik*, (2h), SS 09, *Seminar: Spezielle Probleme der Theoretischen Astrophysik*, (2h), SS 09.

B. Weinhorst: *Klassische Physik auf dem Computer*, (2h), SS 09.

3.2 Prüfungen

Von H. Fichtner abgenommene Prüfungen: 2 Diplomprüfungen, 7 Promotionsprüfungen, 1 Vordiplomsprüfung und 2 Erste Staatprüfungen.

Von R. Schlickeiser abgenommene Prüfungen: 18 Diplomprüfungen, 6 Promotionsprüfungen, 2 Vordiplomsprüfungen und 1 Master of Science Prüfung.

3.3 Gremientätigkeit

H. Fichtner: Mitglied der "Solar System Working Group" der ESA, Mitglied des Vorstandsrats der Deutschen Physikalischen Gesellschaft (DPG), Gastmitglied des DLR-Programmausschusses „Erforschung des Weltraums", Bibliotheksbeauftragter der Fakultät für Physik und Astronomie, Mitglied des Beirats der Universitätsbibliothek der RUB

R. Schlickeiser: Advisory Board Member *Astrophysics and Space Science Transactions (ASTRA)*, Associate Editor of Advanced Science Letter (Topics: Astrophysics, Space Science, Plasma Theory), Associate Editor of The Open Astronomy Jpournal, Co-Editor The Open Plasma Physics Journal. Externer Gutachter beim Habilitationsverfahren von Dr. A. Bret an der Universite Paris VI, LULU Palaiseau

Shukla, P. K.: Elected Corresponding Fellow of The Royal Society of Edinburgh, Elected Associate Fellow/Member (class for physics) of TWAS-The Academy of Sciences for the Developing World, Elected Foreign Member (class for physics) of The Royal Swedish Academy of Sciences; Chairman of the Science Council of the Emerging Nations Foundation, Elected Member and Chairman of IUPAP C16 Commission; Elected Associate Member IUPAP C17 Commission; Elected Fellow, Institute of Physics, UK; Elected Fellow, AIP, USA; Associate Member of the Max-Planck-Institut fuer Extraterrestrische Physik, Garching; Chairman of the International Advisory Committee of the International Conference on the Physics of Dusty Plasma (ICPDP); Member of the International Advisory Committee of the International Congress on Plasma Physics (ICPP); Member of the International Advisory Committee of the World Space Environment Forum; Chairman of the International Topical Conference on Plasma Physics (ITCPP); Editor-in-Chief *Journal of Plasma Physics*; Associate Editor of the *IEEE Trans Plasma Science*; Mitglied des Editorial Board *Plasma Physics and Controlled Fusion, New J. Physics, and International Review Electrical Engineering*; Co-Editor Topical Issue of *Physica Scripta*, The Royal Swedish Academy of Sciences; Co-Director Summer College on Plasma Physics, 29 July-24 August 2007, Abdus Salam ICTP, Trieste, Italien; Distinguished Guest (VIP) of the Abdus Salam ICTP, Trieste, Italien; Full Professor, Institut Superior Technica (IST), Universitat Technica de Lisboa, Portugal; Visiting Professor, University of Strathclyde, Glasgow, UK and Department of Physics at Umea University, Schweden; Fellow CCLRC Centre for Fundamental Physics, Rutherford Appleton Laboratory, Chilton, Didcot, UK; Honarary Professor, School of Physics, University of KwaZulu-Natal, Durban, South Africa; Distinguished Adjunct Professor, Department of Physics, COMSATS Institute of Information Technolgy, Islamabad, Pakistan; Adjunct Professor, National Physics Centre, Quaid-i-Azam University Campus, Islamabad, Pakistan.

4 Wissenschaftliche Arbeiten

Der am Institut für Theoretische Physik angesiedelte Lehrstuhl IV: Weltraum und Astrophysik übt eine Brückenfunktion aus zwischen den Theoretischen Lehrstühlen und den Lehrstühlen für Astronomie und Astrophysik an der Ruhr-Universität Bochum. Schwerpunkte des Lehr- und Forschungsprogramms des Lehrstuhls sind theoretische Fragestellungen aus der Weltraumphysik, der Astrophysik und der Physik kosmischer Plasmen mit Verzweigungen in die Gebiete der beobachtenden Astronomie, der Kosmologie, der Labor-Plasmaphysik, der Hochenergiephysik und der Teilchen-Astrophysik. Im Bereich der Astro-

nomie und Astrophysik beteiligt sich der Lehrstuhl an der bodengebundenen Gammaastronomie im Rahmen des H.E.S.S.-Projekts in Zusammenarbeit mit dem Max-Planck-Institut für Kernphysik in Heidelberg.

4.1 Weltraumphysik

Auswirkung der kosmischen Strahlung auf die terrestrische Atmosphäre und Umgebung (Fichtner, Scherer). Berechnung der Flüsse von energetischen Neutralatomen aus der äußeren Heliosphäre zur Vorbereitung der IBEX-Mission (Fichtner, Scherer, Sternal, Fahr). Zeitabhängigkeit des Transports von energetischen Elektronen in der Heliosphäre (Fichtner,Heber, Kopp, Scherer). Modellierung koronaler Massenauswürfe (Kleimann, Kopp, Fichtner, Grauer). Bestimmung der Elemente des räumlichen Diffusionstensors zum Transport heliosphärischer kosmischer Strahlung (Shalchi, Weinhorst, Fichtner). Bestimmung der Elemente des räumlichen Diffusionstensors zum Transport heliosphärischer kosmischer Strahlung (Schlickeiser, Shalchi).

4.2 Astrophysik

Quasilineare und nichtlineare Theorien des Transports und der Beschleunigung kosmischer Strahlung in magnetohydrodynamischer Turbulenz; (Dosch, Schlickeiser, Shalchi, Skoda, Tautz, Weinhorst). Nichtthermische Strahlungsprozesse in den Jets aktiver galaktischer Kerne und Gamma-ray bursts; Teilchenbeschleunigung in Supernova-Überresten; Heizung und Kühlung des Jetplasmas; Analytische Modellierung relativistischer Jets (Gerbig, Lerche, Röken, Ruppel, Schlickeiser, Stockem, Zacharias). Gamma-Astrophysik mit dem H.E.S.S.-Observatorium (Becker, Gerbig, Ruppel, Schlickeiser, Shalchi). Kollektive Instabilitäten in relativistischen Feuerbällen (Schlickeiser, Stockem, Tautz). Erzeugung kosmologischer Magnetfelder durch die Weibel-Instabilität (Lazar, Schlickeiser, Shukla, Stockem, Tautz). Beitrag anomaler kosmischer Strahlung zum interstellaren Protonenspektrum (Fichtner, Scherer, Büsching).

4.3 Plasmaphysik

Selbstgenerierte elektromagnetische Felder: Instabilitäten und energiereiche Teilchenstrahlung (Lazar, Schlickeiser, Skoda, Stockem, Tautz). Stochastische Magnetfelder mit Struktur – Universelles Verhalten beim chaotischen Transport: Selbstkonsistente Bestimmung der Energiespektren Kosmischer Strahlung durch stochastische Beschleunigung an Plasmaturbulenz (Hoffmann, Schlickeiser, Shalchi, Vukcevic). Kovariante Dispersionstheorie linearer Wellen für anisotrope Plasmaverteilungsfunktionen (Lazar, Lerche, Schlickeiser, Skoda, Tautz).

5 Diplomarbeiten, Dissertationen, Habilitationen

5.1 Diplomarbeiten

Abgeschlossen:

S. Artmann: Anisotropie-Zeit Profile solarer energetischer Teilchen. Bochum, TP IV, Diplomarbeit, 2009

M. Michno: On the magnetization of cosmic outflows. Bochum, TP IV, Diplomarbeit, 2009

T. Schablitzki: Suprathermische Ionen in der heliosphärischen Grenzschicht. Bochum, TP IV, Diplomarbeit, 2009

B. Eichmann: Synchrotron- und Röntgenvariabilitäten von Blazaren, TP IV, Diplomarbeit, 2009

J. Reimchen: Fokussierte Diffusion solarer kosmischer Strahlung, TP IV, Diplomarbeit, 2009

T. Skoda: Transport hochenergetischer kosmischer Strahlung im interstellaren Medium,

TP IV, Diplomarbeit, 2009

Laufend:

Patrick Blies: Einfluss von Klein-Nishina-Stufen in der Lösung der Diffusionsgleichung galaktischer kosmischer Elektronen, TP IV, Diplomarbeit, 2009

5.2 Bachelor und Masterarbeiten

Abgeschlossen:

S. Barra: Der anisotrope Diffusionstensor in symmetriefreien Magnetfeldern, TP IV, Master-of-Science Arbeit, 2009

C. Brock: Vergleich von exakten und genäherten Ladungsaustauschraten in heliosphärischen Plasmen mit thermischen und nicht-thermischen Verteilungsfunktionen, Master-of-Education-Arbeit, 2009

M. Temmen: Die Erzeugung energiereicher Wasserstoffatome von Protonenverteilungen in der Helioschicht. Bochum, TP IV, Bachelor-of-Science Arbeit, 2009

T. Wiengarten: Vergleich verschiedener Magnetfeldkonfigurationen im Bereich des heliosphärischen Terminationsschocks, Bochum, TP IV, Bachelor-of-Science Arbeit, 2009

U. Menzler: Kombinierte nichtlineare Synchrotron-Selbst-Compton Kühlung von realitivistischen Elektronen, TP IV, Bachelor-of-Science Arbeit, 2009

Laufend:

Mustafa Caglar: Klein-Nishina-Stufen im Energiespektrum kosmischer Elektronen, Bachelor-of-Science Arbeit, 2010

M. Zacharias: Non-linear Synchrotron self-Compton Radiation of relativistic Electrons. Bochum, TP IV, Master-of-Science Arbeit, 2009

5.3 Dissertationen

Abgeschlossen:

A. Stockem: Plasmainstabilitäten in anisotropen Gegenstromverteilungen. Bochum, TP IV, Dissertation, 2009

Laufend:

S. Artmann: Untersuchungen zum fokussierten Transport kosmischer Strahlung, Dissertation, 2009

K. Brodatzki: High-energy photon interactions in active galactic nuclei, Dissertation, 2009

A. Dosch: Berechnung senkrechter Diffusionskoeffizienten geladener Teilchen aus der Newton - Lorentz - Gleichung, Bochum, TP IV, Dissertation

F. Effenberger: Anisotropic Cosmic Ray Diffusion in the Galaxy, Bochum, TP IV, Dissertation, 2009

D. Gerbig: Weiterentwicklung des relativistischen Pick-Up Modells. Bochum, TP IV, Dissertation, 2009

P. Hofmann: Calculation of Turbulence Power Spectra from Anisotropic Damping, Bochum, TP IV, Dissertation, 2009

M. Michno: Examination of kinetic and MHD-instabilities in anisotropic plasma distributions, Bochum, TP IV, Dissertation, 2009

M. Olivo: High-energy neutrinos from Gamma-Ray Bursts, Dissertation, Bochum, TPIV, Dissertation, 2009

J. Reimchen: Nichtlineare Transportparameter kosmischer Positronen, Bochum, TPIV,

Dissertation, 2009

J. Ruppel: Über die zeitlichen Skalen der Dynamik verschiedener Elektronenpopulationen, Bochum, TPIV, Dissertation, 2009

T. Skoda: Lineare Theorie von Fluktuationen im anisotropen Sonnenwindplasma, Bochum, TPIV, Dissertation, 2009

B. Weinhorst: Verallgemeinerte Turbulenzmodelle zur Beschreibung von FLRW und Teilchentransport, Bochum, TP IV, Dissertation, 2009

6 Tagungen, Projekte am Institut und Beobachtungszeiten

6.1 Projekte und Kooperationen mit anderen Instituten

Dr. H. Fichtner ist lokaler RUB-Koordinator für das EU Research Training Network "Solaire" Dr. H. Fichtner ist Leiter einer BMBF-geförderten Zusammenarbeit mit der Nort-West University, Südafrika

7 Auswärtige Tätigkeiten

7.1 Nationale und internationale Tagungen

H. Fichtner: EU RTN Solaire-Network Meeting in Catania, Italien, 12.01.-16.01.2009

H. Fichtner: DFG CAWSES-Kolloquium, Bonn, 28.-30.01.2009

R. Schlickeiser: Vortrag "First-order distributed Fermi acceleration of relativistic particles in nonuniform magnetic fields" auf Workshop "UHECR and Magnetic Fields" auf Schloss Ringberg 11.2.-14.2.09

R. C. Tautz, J. Ruppel, A. Stockem, S. Artmann, H. Fichtner, D. Gerbig, M. Michno: Jahrestagung der Arbeitsgemeinschaft Extraterrestrische Forschung (AEF) und des DPG-Fachverbandes Extraterrestrische Forschung, Ernst-Moritz-Arndt-Universität Greifswald, 30.03.-03.04.2009

R. Schlickeiser: Hauptvortrag "Particle acceleration in astroparticle physics=Plasma physics of cosmic collisionless explosions" auf DFG Frühjahrstagung in Greifswald 31.3.-2.4.09

M. Michno: Workshop des Graduiertenkollegs 1147 Theoretische Astrophysik und Teilchenphysik, Julius-Maximilians-Universität Würzburg, 26.04.-29.04.2009

J. Ruppel, D. Gerbig: H.E.S.S. Collaboration Meeting, Eriwan, Armenien, 27.04.-04.05.2009

H. Fichtner, K. Scherer: NASA Review Panel, Washington, USA, 18.-22.05.2009

R. Schlickeiser: Teilnahme am CTA-Meeting des BMBF, DESY, Hamburg, 1.7.09

R. Schlickeiser: Eingeladener Vortrag "Plasma physics of cosmic collisionless explosions: The role of the relativistic filamentation and electrostatic instabilities", Summer College on Plasma Science, ICTP, Triest, Italien, 10.-14.8.09

H. Fichtner: IHY Africa Conference, Livingstone, Sambia, 05.-13.06.2009

J. Becker, International Cosmic Ray Conference, Lodz, Poland, July 2009

H. Fichtner: IBEX SWT-Meeting, Boston, USA, 18.-23.07.2009

J. Becker, M. Olivo, J. Dreyer: International IceCube Collaboration Meeting, Berlin, September 2009

S. Artmann: ISSI-Team Meeting on the "Transport of Energetic Particles in the Inner Heliosphere", Bern, Schweiz, 07.09.-11.09.2009

R. Schlickeiser: Vortrag "Linear theory of temperature anisotropy instabilities in magneti-

zed thermal plasmas", ISSI-Team Meeting on "Transport of Energetic particles in the Inner Heliosphere", Bern, Schweiz, 7.-11.9.09

R. Schlickeiser: Teilnahme am HESS-Team Meeting, Erlangen, 21.-25.9.09

R. C. Tautz, J. Ruppel, F. Effenberger: Annual Fall Meeting and 82nd General Assembly of the "Astronomische Gesellschaft", Universität Potsdam, 21.09-25.09.2009

K. Brodatzki, Polish Astrophysics meeting, Krakau, October 2009

H. Fichtner, F. Effenberger: EU RTN Solaire-Network Meeting and Flux Emergence Workshop in Teneriffa, Spain, 02.11.-06.11.2009

7.2 Vorträge und Gastaufenthalte

H. Fichtner, Universität Düsseldorf, 03.02.2009

R. Schlickeiser: Vortrag "Von OSO-3 bis H.E.S.S.-2: Die Erfolgsgeschichte der Gammaastronomie", Saturday Morning Physics, Ruhr-Universität Bochum, 07.02.09

J. Ruppel: Arbeitstreffen und Seminarvortrag, Universität Tübingen, 09.-13.02.2009

R. Schlickeiser: Vortrag "Cosmic ray acceleration and transport with weak adiabatic focusing", Princeton Plasma Physics Laboratory, 19.02.09

R. Schlickeiser: Vortrag "Cosmic ray acceleration and transport with weak adiabatic focusing", University of Chicago, 27.02.09

R. Schlickeiser: Vortrag „Cosmic ray acceleration and transport with weak adiabatic focusing", University of Berkeley California, 04.03.09

R. C. Tautz: Deutsche Akademie der Naturforscher Leopoldina, Halle, 02.06.-03.06.2009

H. Fichtner, Universität Würzburg, 02.07.2009

A. Stockem: Vorstellungsgespräch, Lissabon, Portugal, 13.07.-15.07.2009

R. C. Tautz: Institut für Mathematik, Technische Universität Berlin, 30.07.-31.07.2009

J. Becker: Astroteilchenphysik Schule Bad Honnef, September 2009

J. Becker: TU Dortmund, Kolloquiumsvortrag, Oktober 2009

J. Kleimann: 3rd Solaire Network Meeting, Puerto de la Cruz/Teneriffa, Spanien, 05.11.2009

R. Schlickeiser: Vortrag "Von OSO-3 bis H.E.S.S.-2: Die Erfolgsgeschichte der Gammaastronomie" im Mathematisch-Technischemn Kolloquium der Fachhochschule Koblenz/Rhein-Ahr Campus, Remagen, 12.11.09

R. Schlickeiser: Vortrag: "Die Erfolgsgeschichte der Gammaastronomie", Volkssternwarte Recklinghausen, 16.12.09

J. Becker: Onsala Space Observatory, Sweden, Seminarvortrag, Dezember 2009

7.3 Kooperationen

IceCube Collaboration

HESS-Collaboration

Cherenkov Telescope Array

North-West University, Potchefstroom, Sädafrika

University of Turku, Finnland

Friedrich-Wilhelms-Universität Bonn

Christian-Albrechts-Universität zu Kiel

EU Research Training Network Solaire

DFG Schwerpunktprogramm CAWSES

7.4 Sonstige Reisen

J. Becker, Universität Göteborg, Schweden, 01.-11.10.09, Zusammenarbeit mit Prof. Marek Abramowicz und Prof. John Black

M. Olivo, University of Wisconsin, Madison (USA), Zusammenarbeit mit Prof. F. Halzen, November - Dezember 2009

8 Veröffentlichungen

8.1 In Zeitschriften und Büchern

Abbasi, R., ..., Becker, J. K., ..., Dreyer, J., ..., Olivo, M. et al.: (IceCube Coll.), Extending the Search for Neutrino Point Sources with IceCube above the Horizon, Phys. Rev. Lett. 103(22):221102 (2009)

Abramowicz, M.A., Becker, J. K. et al.: No observational constraints from hypothetical collisions of hypothetical dark halo primordial black holes with galactic objects, Astroph. Journal 705:659 (2009)

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