

3rd Galileo-XuGuangqi Meeting
11-15 October 2011 – Beijing (China)
Morning Sessions

Tuesday 11th	Wednesday 12th	Thursday 13th	Friday 14th	Saturday 15th
X and Gamma Ray Astrophysics	Gravitational waves and precision tests of general relativity	General Relativity, GRBs, neutron star and supernovae	Astroparticle Physics	Cosmology, Large Scale Structure and Dark Matter
<i>Multifunctional Hall</i>	<i>Multifunctional Hall</i>	<i>Multifunctional Hall</i>	<i>Multifunctional Hall</i>	<i>Multifunctional Hall</i>
Chairs: Frontera Filippo Li Tipei	Chairs: Blair David Zhu Zong Hong	Chairs: Boer Michel Zhang Bing	Chairs: Battiston Roberto Chen Pisin	Chairs: Chen Xuele Della Valle Massimo
<i>Opening Speech</i> Ruffini Remo - Li Tipei Yan Jun - Zhao Gang Hao Jinxin - Xue She-Sheng <i>Group Photo</i>				
9:10-9:40	9:00-9:30	8.30-9.00	9:00-9:30	9:00-9:30
Frontera Filippo	<u>Wen Linging</u>	Zhang Bing	Pisin Chen	Wang Lifan
5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion
9:45-10:15	9:35-10:05	9.05-9.35	9:35-10:05	9:35-10:05
Li Tipei	Yanbei Chen	Della Valle Massimo	<u>Battiston Roberto</u>	<u>Bernabei Rita</u>
5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion
10:20-10:30	10:10-10:30	9.40-10.00	10:10-10:30	10:10-10:30
Coffee Break				
10:30-11:00	10:30-11:00	10.00-10.30	10:40-11.10	10:30-11.00
<u>Shuangnan Zhang</u>	<u>Takaaki Kajita</u>	<u>Ruffini Remo</u>	Fiorini Ettore	Ji Xiangdong
5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion
11.05-11:35	11.05-11:35	10.35-11.05	11.15-11:45	11.05-11:35
<u>Tavani Marco</u>	Luo Jun	Dai Zigao	Wang Yifang	<u>Casolino Marco</u>
5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion
11:40-12.10	11:40-12.10	11.05-11.35	11:50-12.20	11:40-12.10
Sinnis Gus	Everitt Francis	Rueda Jorge	Westerhoff Stefan	De Bernardis Paolo (skype connection)
5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion	5 minutes discussion
			12.25-12.50	
			Cao Zhen	
Lunch Break				
	Public Lecture Prof. David Blair Beijing University - 7pm		Public Lecture Prof. <u>Everitt Francis</u> Tsinghua Univ. - 7.30pm	Public Lecture Prof. <u>Ruffini Remo</u> Peking University – 7pm

Tuesday 11th October

X and Gamma Ray Astrophysics

Frontera Filippo

University of Ferrara and INAF/IASF-Bologna

Title: *Prospects for Gamma-ray Focusing Telescopes beyond 70/100 keV*

Abstract: I will report on the prospects for focusing telescopes in the soft gamma-ray band ($>70/100$ keV). These telescopes could open a new window in X-ray astronomy. Indeed the current instrumentation is background limited and many issues that could be solved with deep observations in this band are still open.

I will also discuss these issues and the scientific prospects of the development activity in our Department devoted to Laue lenses for space astrophysics.

Li Tipei

IHEP Chinese Academy and Tsinghua University

Title: *Scientific objectives of the HXMT mission*

Abstract: The hard X-ray modulation telescope HXMT is the first dedicated astronomy satellite in China launched around 2015. H X M T is an assembly of a high energy detector HE (20-250 keV), medium energy detector ME (5-30 keV), and low energy detector LE (1-15 keV). All the three detectors are slat-collimated with similar field of view, comprising an observatory to perform high signal-to-noise ratio pointing observations of high-energy sources in a wide band. HXMT can also perform imaging by an all-sky scan survey. In this talk I will introduce the scientific objectives of the HXMT mission.

Zhang Shuangnan

IHEP Chinese Academy and Tsinghua University

Title: *Prospects for future High Energy Astrophysics missions in China*

Abstract: In this report, I will first summarize briefly the strategic goal and programs of China's near and long space astronomy program, then describe the current space high energy astrophysics missions to be launched within the next five years, including its first space astronomy satellite the Hard X-ray Modulation Telescope (HXMT) mission, the Space Viable Object Monitor (SVOM), the space dark matter detection satellite, and the gamma-ray burst polarization observation experiment (POLAR) onboard China's spacelab. I will finally outline China's future plan on space astronomy program, including space astronomy satellites and instruments on China's space station.

Tavani Marco

INAF-IASF Roma and Università di Roma "Tor Vergata"

TBD

Sinnis Gus

Los Alamos National Laboratory

Title: *TeV Astrophysics with the Milagro and HAWC Arrays*

Abstract: Ground-based gamma-ray astronomy has historically implemented two dramatically different techniques. One method employs Imaging Atmospheric Cherenkov Telescope(s) (IACT) that detect the Cherenkov light generated in the atmosphere by extensive air showers. The other method employs particle detectors that directly detect the particles that reach ground level - known as Extensive Air Shower (EAS) arrays. Until recently, the IACT method had been the only technique to yield solid detections of TeV gamma-ray sources. Utilizing water Cherenkov technology, Milagro, was the first EAS array to discover new gamma-ray sources and demonstrated the power of and need for an all-sky high duty cycle instrument in the TeV energy regime. The transient nature of many TeV sources, the enormous number of potential sources, and the existence of TeV sources that encompass large angular areas all point to the need for an all-sky, high duty-factor instrument with even greater sensitivity. In this talk I will discuss results from the Milagro Observatory and plans for the HAWC Observatory at the volcan Sierra Negra in Mexico

Wednesday 12th October

Gravitational waves and precision tests of general relativity

Wen Linqing

University of Western Australia

Title: *Synergy of Gravitational wave and electromagnetic astronomy in the era of advanced detectors*

We are expecting the first detection of gravitational waves in the next decade. With the recent development of advanced detection technology, we will be able to provide early warnings of gravitational wave events to alert electromagnetic telescopes for prompt follow-up observations. I'll review the scientific motivation and current effort in this aspect, and discuss the role of the existing and future detector network.

Yanbei Chen

University of Western Australia

Gravitational wave detectors as quantum instruments

Takaaki Kajita

University of Tokyo

Title: *The Large scale Cryogenic Gravitational Wave Telescope (LCGT) Project*

Abstract: Large scale Cryogenic Gravitational Wave Telescope (LCGT) is a project for the direct detection of gravitational wave signals. It will be a interferometer with 3km * 3km arms. It will be located underground Kamioka, Japan. In order to achieve a high sensitivity, LCGT will use cryogenic temperature mirrors. The construction has started in 2010. It is expected to start the observation in 2017 with the full detector setup. In this talk, I will report the design and the construction status of LCGT.

Luo Jun

Huazhong University of Science and Technology

TBD

Everitt Francis

Stanford University - W.W. Hansen Experimental Physics Laboratory

Title: *Frame-dragging, Cryogenics, and Space: The Gravity Probe B Experiment*

Abstract: Probe B experiment, launched in 2004, displays both along with the fascinating intersection of physics and engineering in a real-life flight experiment. This critical collaboration has produced 86 Stanford doctorates and 14 from other universities, over an extraordinary range of topics. According to Einstein, a gyroscope in a 640 km polar orbit around the Earth is subject to two non-Newtonian precessions, a 6.6 arc-s/yr geodetic effect in the plane of the orbit and a 0.039 arc-s/yr frame-dragging effect due to the rotation of the Earth. Gravity Probe B measured both. To determine these tiny effects required a gyroscope 107 times better than the best Earth-based inertial navigation gyroscopes and a reference telescope 103 times better than any prior star tracker. The talk will describe the unique combination of cryogenics and space technologies that made this possible, and also some on-orbit surprises and how they were overcome. Space makes new physics possible in 8 distinct ways. GP-B has been the largest of a series of NASA missions in Fundamental Physics. The flight experience will inform the development of several important future missions including LISA and STEP

Thursday 13th October

General Relativity, GRBs, neutron star and supernovae

Zhang Bing

University of Nevada Las Vegas

From Swift to Fermi: A paradigm shift in GRB modeling

Della Valle Massimo

Osservatorio di Capodimonte

Title: *The Empirical Grounds of the Supernova-Gamma-ray Burst Connection*

Abstract: I'll review the observational status of the Supernova and Gamma-ray Burst connection including the recent observations of SN 2010bh/GRB 100316D

Izzo Luca

University of Rome "Sapienza"

TBD

Dai Zigao

Nanjing University

Gamma-Ray Bursts: Early Afterglows, High-Energy Emission, and Cosmology

Rueda Jorge

University of Rome "Sapienza" and ICRANet

Title: *On the Einstein-Maxwell-Thomas-Fermi equations of equilibrium for white dwarfs and neutron stars*

Abstract: Recent results on the formulation of a self-consistent theory for white dwarfs and neutron stars including strong, weak, electromagnetic, and gravitational interactions are outlined. First, the extension of the Feynman-Metropolis-Teller approach of the compressed atom to relativistic regimes is formulated and applied to white dwarfs within the framework of general relativity. Based on such a treatment, we go one step further by proving the impossibility of imposing the condition of local charge neutrality in a self-gravitating system of degenerate neutrons, protons and electrons in beta-equilibrium. The coupled system of the general relativistic Thomas-Fermi equations and the Einstein-Maxwell equations are constructed superseding the traditional Tolman-Oppenheimer-Volkoff equations. Special emphasis is given to the equilibrium conditions represented by the constancy of the general relativistic chemical potentials, for short Klein potentials, both for zero and finite temperatures. It is also shown the extension of the theory including strong interactions between nucleons through the relativistic extended Walecka model. This treatment represents an essential step to the correct formulation of a self-consistent relativistic field theoretical approach of neutron stars. The implications of these new Einstein-Maxwell-Thomas-Fermi equations of equilibrium on the structure and consequently on the astrophysics of neutron stars are also presented.

Friday 14th October***Astroparticle Physics*****Cao Zhen**

IHEP Chinese Academy

Title: *ARGO-YBJ: a Multi-purpose Experiment Operation for 5 Years*

Abstract: In last 5 years since the ARGO-YBJ experiment was turned on for cosmic ray data taking in 2006, many progresses have been made on observation of galactic gamma ray sources, long term monitoring on extragalactic gamma ray sources for multi-wavelength analysis, measurements of cosmic ray energy spectrum, anisotropy of arrival directions, interaction cross section between proton and atmospheric nuclei, estimates of the IMF intensities and upper limit setting for the anti-proton flux, etc. In this report, an overall summary will be delivered about all the measurements and potential developments. A future experiment, LHAASO, will be briefed as a natural extension of all the researches with greatly enhanced sensitivities in 5-10 years

Battiston Roberto

University of Perugia and INFN

Title: *Astroparticle physics from space: status of the AMS experiment*

Abstract: One century after the discovery of Cosmic Rays the study of cosmic radiation still carries intact its potential for new fundamental physics discoveries. During the last decade very sophisticated, state of the art satellites as well as new types of powerful ground based telescopes and underground detectors have produced a wealth of new results and some puzzling hints for new physics. I will review the status of in the field of astroparticle physics, discussing the potential of the recently launched Alpha Magnetic Spectrometer, the large observatory installed on the ISS, to search for the existence of nuclear antimatter and to study the origin of dark matter.

Wang Yifang

IHEP Chinese Academy

Daya Bay reactor neutrino experiment

Fiorini Ettore

University of Milan

Title: *Neutrino Physics and Astrophysics*

Abstract: The new results on oscillations of solar, atmospheric, reactor and accelerator neutrinos will be briefly reported with their consequences on the existence of massive neutrinos. The present results on the limit on neutrino mass based on cosmology and especially on single and double beta decay will be presented and discussed together with an overview of running and planned experiments. Special relevance will be given to experiments aimed to reveal the Dirac or Majorana nature of the neutrino

Westerhoff Stefan

University of Wisconsin-Madison

Title: *New Results from the IceCube Neutrino Telescope*

Abstract: IceCube is a cubic kilometer-scale neutrino telescope located at the geographic South Pole. The detector comprises 5,160 photomultipliers deployed on 86 strings at depths of 1.5-2.5 km below the polar ice sheet. It uses the clear Antarctic ice as a Cherenkov medium to detect high-energy cosmic neutrinos from the most violent astrophysical sources. The sensitivity of IceCube to low-energy neutrinos is enhanced by DeepCore, a dense sub-array of 6 strings in the center of the detector.

The IceCube detector is also complemented by IceTop, a square-kilometer air shower array deployed on the surface of the ice sheet above IceCube. The construction of IceCube was completed in December 2010, but measurements with the partially-constructed detector have been ongoing for several years. We present initial results of searches for neutrinos from astrophysical sources such as supernova remnants, active galactic nuclei, and gamma ray bursts, for anisotropies in cosmic rays, and constraints on the dark matter scattering cross section

Saturday 15th October***Cosmology, Large Scale Structure and Dark Matter*****De Bernardis Paolo**

University of Rome

Title: *CMB observations: Planck and beyond.*

Abstract: Current observations of the Cosmic Microwave Background include extremely sensitive surveys of the polarization of the CMB, and sensitive observations of the fine-scale anisotropy of the CMB. These allow to test the most striking extensions of the hot Big Bang model, including the hypotheses of inflation and dark energy.

After a general description of the status of the field, with a detailed description of the Planck survey and its early results, we will focus on a few new ideas, exploiting the full information encoded in ultradeep maps of CMB anisotropy and polarization. These include differential spectroscopy of secondary CMB anisotropy, and precision measurements of CMB polarization, both requiring the most advanced experimental methods and detector, space and analysis technologies.

Casolino Marco

RIKEN - Japan and INFN – Italy

Latest results on cosmic ray particles and antiparticles from PAMELA experiment

Abstract: PAMELA is a satellite-borne magnet spectrometer detector orbiting the Earth on board the Russian Resurs-DK1 satellite since 2006. It is devoted to the high precision measurements of cosmic ray particle and antiparticles of galactic, solar and terrestrial origin. In this talk we will discuss the recent measurements of electrons, positrons and antiprotons and their relevance for indirect dark matter search as well as cosmic rays production and propagation. Also data on Proton and Helium nuclei - which exhibit different spectral indexes and suggest that the two particles undergo different acceleration mechanisms or are accelerated at different sites will be presented.

Bernabei Rita

Universita' di Roma Tor Vergata

Title: *Results from DAMA/LIBRA and perspectives*

Abstract: The DAMA/LIBRA set-up (about 250 kg highly radiopure NaI(Tl)) is running at the Gran Sasso National Laboratory of the I.N.F.N.. The results obtained by exploiting the model independent annual modulation signature for the presence of Dark Matter (DM) particles in the galactic halo during the first six annual cycles (exposure of 0.87 ton x yr) will be discussed. The cumulative exposure with those previously released by the former DAMA/NaI is 1.17 ton $\times$ yr, corresponding to 13 annual cycles. The confidence level for the observed effect is 8.9 sigma and the data satisfy all the many peculiarities of this DM model independent signature. No systematics or side processes able to account for the measured modulation amplitude and to simultaneously satisfy all the many requirements of the signature have been found or suggested by anyone over more than a decade. Data have already been collected during a further annual cycle before the realization of a new upgrade of the DAMA/LIBRA set-up, which occurred at end of 2010. Presently DAMA/LIBRA is in data taking in the new configuration. Results, implications and experimental perspectives will be summarized.

Wang Lifan

Texas A&M University - NAOC

TBD

Ji Xiangdong

University of Maryland and Beijing University

Direct Dark Matter Research on Panda X project in Sichuan

Tuesday 11 th October 2011				
Gravitational waves and precision tests of general relativity	General Relativity, GRBs, neutron star and supernovae	Cosmology, Large Scale Structure and Dark Matter	Solar astrometry and grand minima of activity	History of Astronomy and Astrophysics
Room A508	Room A135	Room A208	Room A308	Room A408
<i>Topic:</i> <i>Gravitational Wave Detectors</i>	<i>Topic:</i> GRBs and S.N.	<i>Topic:</i> <i>Early Universe</i>		
Chairs: Chunnong Zhao Cao Junwei 14.00-14.30	Chair: Bianco Carlo Luciano 14.00-14.30	Chair: Belinski Vladimir 14.00-14.30	Chairs: Sigismondi Costantino Wang Jinxiu 14.00-14.30	Chair: Sun Xiaochun 14.00-14.15
Stefan Gossler	Boer Michel invited	Gionti Gabriele invited	Shaolan Bi	Shi Yunli
				14.15-14.30
				Sun Xiaochun
14.30-15.00	14.30-15.00	14.30-15.00	14.30-15.00	14.30-14.45
Stuart Reid	Enwei Liang invited	Rosquist Kjell invited	Jie Jiang	Wang Guangchao
				14.45-15.00
				Niu Weixing
15.00-15.30	15.00-15.30	15.00-15.30	15.00-15.30	15.00-15.15
Catherine Nary Man	Lorenzo Amati invited	Wu Xuebing invited	Yihua Yan	Remo Ruffini
				15.15-15.30
				Richard Strom
<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>
15.50-16.05	15.50-16.20	15.50-16.20	15.50-16.20	15.50-16.05
Yanbei Chen	Xiangyu Wang invited	Sudarsky, Daniel	Yuanyong Deng	Sigismondi Costantino
16.05-16.20	16.20-16.35	16.20-16.35	16.20-16.50	16.05-16.20
Haibo Wang	Penacchioni Ana	Belinski Vladimir	Guiping Zhou	Fung Kam-wing
16.20-16.35	16.35-16.50	16.35-16.50	16.50-17.20	16.20-16.35
Chunnong Zhao	Yu Wang	Micol Benetti	Sigismondi Costantino	Changbom Park
16.35-16.50	16.50-17.05	16.50-17.05	17.20-17.50	16.35-16.50
Vetrano Flavio	Irene Arkhangelskaja	Scardigli Fabio	A. Raponi and C. Sigismondi	David Valls-Gabaud
			17.50-1818.20	
	Poster Session: He Haoning, Lin Ruoyu, Liu Tong Shao Lang, Weng Dehua, Xue, Li, Yiqing Lin, Zhao, Xiaohong		Jin, Chunlan	16.50-17.05
			Discussions and Concluding Remarks	Yang Hong-Jin

Gravitational Wave Detectors

Gossler Stefan: The AEI 10m Prototype Interferometer

Stuart Reid (1) Suspension and coating thermal noise investigations at Glasgow (2) The Einstein Telescope: a third generation gravitational wave observatory in Europe

Chunnong Zhao: Harnessing three mode interactions in gravitational wave detectors for stability control and quantum measurement

Mat Evans: Advanced gravitational wave detectors

Jerome Degallaix: Advanced Virgo

Yanbei Chen: Advanced interferometer configurations: beyond the second generation

Haibo Wang: Quantum measurement experiments at BNU

Vetrano Flavio: Principles of Gravitational Waves detection through atom interferometry and a look ahead

GRBs and S.N.

Enwei Liang: Emission components in Optical Afterglows and their relations to the prompt gamma-rays and X-ray afterglows

Amati Lorenzo: Cosmology with Gamma-Ray Bursts

Arkhangelskaja Irina: Long GRB with additional high energy maxima after the end of the low energy t90 intervals

Early Universe

Gionti Gabriele: First Order Regge Calculus and Spin Foam Formalism

Rosquist Kjell: Gravitational acceleration and cosmic jets

Wu Xuebing: Finding Missing Quasars in the Redshift Desert

Sudarsky, Daniel: The unsolved problem of emergence of the seeds of cosmic structure during inflation

Belinski Vladimir: Basic facts on the cosmological singularity

Scardigli Fabio: Emergence of Special and Doubly Special Relativity

Redkov Viktor: Spin 1/2 Particle In The Field Of Dirac String On The Background Of De Sitter Space-Time

Solar Astrometry and Grand Minima of Activity

Raponi Andrea and Sigismondi Costantino: Solar diameter, Limb Darkening Function and Eclipses

Sigismondi Costantino: Clavius Project on solar diameter measurements groundbased

Guiping Zhou: CME source region

Jie JIANG: Solar dynamo and the grand solar minima

Shaolan Bi: Updated solar model with new abundance, rotation & magnetic field

Yihua Yan: Chinese Radioheliograph

Yuanyong Deng: Chinese giant solar telescope

History of Astronomy and Astrophysics

Ruffini Remo: Events in the collaboration with China on relativistic Astrophysics

Sigismondi Costantino: Gerbert of Aurillac: Astronomy and Science in the tenth century in Europe

Sun Xiaochun: Study of the Taosi Prehistoric Observatory in Lifeng, China

Valls-Gabaud David: The early history of gravitational lensing

Yang Hong-Jin: Astronomical Aspects of Korean Dolmens

Wednesday 12 th October 2011			
X and Gamma Ray Astrophysics	Gravitational waves and precision tests of general relativity	General Relativity, GRBs, neutron star and supernovae	General Relativity, GRBs, neutron star and supernovae
Room A208	Room A308	Room A408	Room A508
Topic: <i>Theory and Modeling of X-/gamma-ray emission from BHs and NSs</i>	Topic: Gravitational Wave Theory and Data Analysis	Topic: Black Holes, Neutron Stars and White Dwarfs	Topic: Relativistic MHD Flows and Electron-Positron Plasma
Chair: Feng Yuan	Chair: Linqing Wen	Chair: Rueda Jorge	Chairs: Lou Yuqing
14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.30
Hua Feng invited	Maurice van Putten invited	Renxin Xu invited	Lou Yuqing invited
14.30-15.00	14.30-15.00	14.30-15.00	14.30-15.00
Xiangdong Li invited	Chris Belczynski invited	Han, JinLin	Xue She-Sheng invited
15.00-15.30	15.00-15.30	15.00-15.30	15.00-15.30
Wenfei Yu invited	Nickolas Fotopoulos invited	Ali Taani invited	Bianco Carlo Luciano
<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>
15.50-16.20	15.50-16.20	15.50-16.20	15.50-16.20
Feng Yuan invited	Sergio Frasca invited	Zhang, Shuang-Nan	Izzo Luca
16.20-16.50	16.20-16.40	16.20-16.35	16.20-16.50
Andrzej Zdziarski invited	Cao Junwei invited	Zhao Huihua	Muccino Marco
16.50-17.05	16.40-17.00	16.35-16.50	16.50-17.20
Ma Renyi	Lindy Blackburn invited	Zhou, Xia	Alberto Benedetti
17.05-17.20	17.00-17.20	Poster Session: Meirkhan Abdildin Jing Wang Long Jiang Atfah Mussa U.V. Seshavatharam	17.20-17.50
Qiao Guojun	Drew Keppel invited		Wang, Li-Le
	17.20-17.40		Round Table Discussions on GRBs
	Zhihui Du invited		
	17.40-18.00		
	Wang Yan		

Theory and Modeling of X-/gamma-ray emission from BHs and NSs

Hua Feng: X-ray Modeling of Ultraluminous X-ray Sources

Xiangdong Li: Contribution of X-ray binaries to the evolution of late-type galaxies: evolutionary population synthesis simulations

Wenfei Yu: Black hole X-ray Binaries: New Observational Perspective

Feng Yuan: An MHD model for the formation of episodic jets

Andrzej Zdziarski: X-ray and gamma-ray emission from jets in black-hole binaries

Ma Renyi: Fitting the Multi-wavelength Spectrum of IGR J17177-3656 with LHAF

Qiao Guojun: Radio and high-energy radiatio from normal and millisecond pulsars and the annular gap model

Gravitational Wave Theory and Data Analysis

Maurice Van Putten: Electromagnetic priors from black hole spindown in gravitational-wave searches from supernovae and long GRBs

Frasca Sergio: First generation GW interferometers: main results

Cao Junwei: Multivariate Classifiers for LIGO Data Analysis

Black Holes, Neutron Stars and White Dwarfs

Wu Renxin: Pulsars: Quark (cluster) Stars

Ali Taani: Accretion Induced Collapse of White Dwarfs As an AlternativeSymbiotic Channel to Millisecond Pulsar

Han Jinlin: The Sina-German 6cm polarization survey of the Galactic plan

Zhang Shuangnan: Evolution of the magnetic field of neutron stars and its possible implication to gravitational wave detection

Zhao Huihua: Neutron Star Mass & Radius and EOS

Zhou, Xia: Magnetic field decay and thermal evolution of neutron stars

Relativistic MHD Flows and Electron-Positron Plasma

Lou Yu-Qing: Relativistic Magnetohydrodynamic Pulsar Winds

Wang Li-Le: Dynamic Voids Surrounded by Shocked Conventional Polytopic Gas Envelopes

Friday 14th October 2011

X and Gamma Ray Astrophysics	Gravitational waves and precision tests of general relativity	General Relativity, GRBs, neutron star and supernovae	Astroparticle Physics	Cosmology, Large Scale Structure and Dark Matter
Room A508	Room A208	Room A135	Room A408	Room A308
Topic: Galactic compact objects and supermassive black holes	Topic: Pulsar and Radio Astronomy	Topic: Black Holes, Neutron Stars and White Dwarfs	Topic: High Energy Cosmic Rays	Topic: CMB and Dark Energy
Chair: Frontera Filippo	Chairs: Zhang Chengmin Strom Richard	Chairs: Li Xiang-Dong Hyung Won Lee	Chair: Cao Zhen	Chair: Rosquist Kjell
14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.30
Ioannis Georgantopoulos invited	Zsolt Paragi invited	Rueda Jorge Armando invited	Stefan Westerhoff invited	Hyung Won Lee invited
14.30-15.00	14.30-14.45	14.30-14.40	14.30-15.00	14.30-15.00
Roberto Gilli invited	Huang Lei	Abdildin, Meirkhan invited	Marco Ricci invited	Lukierski, Jerzy Andrzej Invited
	14.45-15.00			
	Han Jinlin			
15.00-15.30	15.00-15.15	14.40-15.10	15.00-15.30	15.00-15.30
Zhang Jin invited	Tian Wenwu	Kuantay Boshkayev invited	Shoushang Zhang invited	Zhang Yang invited
	15.15-15.30			
	Wang Na & Yuan Jianping			
<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>
15.50-16.05	15.50-16.05	15.50-16.20	15.50-16.15	15.50-16.20
Wang Wei	Luca Naso	Riccardo Belvedere	Jing Huang	Eloisa Menegoni
16.05-16.35	16.05-16.35	16.20-16.30	16.15-16.40	16.20-16.35
Paolo Giommi	Zhu Ming	Muhammad Sharif	Giuseppe Di Sciascio	Alessandor Melchiorri Skype connection
16.35-17.05	16.35-17.05	16.30-16.40	16.40-17.05	16.35-16.50
Sahakyan Narek	Guojun Qiao	Ghulam Abbas	Denis Bastieri	Bernardo Fraga
17.05-17.35	17.05-17.20	16.40-16.50	17.05-17.30	16.50-17.05
Jian-Min Wang	Zhang Chengmin	Kausar, Hafiza Rizwana	Gaku Mitsuka	Tipei Li
	17.20-17.35	16.50-17.50	17.30-17.55	
	Yan Wenming	Open Discussions On AXP and SGR	Qiang Yuan	
		Boshkayev, Renxin Xu, Rueda, Ruffini		
	17.35-17.50	Poster Session: Nurzada Beissen Medeu Abishev Sheyse M. de Carvalho	17.55-18.20	
	Wang Wei		Siming Liu	

Galactic compact objects and supermassive black holes

Georgantopoulos Ioannis: X-ray spectroscopy for the detection of highly obscured AGN

Gilli Roberto: The cosmological evolution of SMBH as traced by X-ray observations

Zhang Jin: Radiation Mechanisms and Physical Properties of TeV Active Galactic Nuclei

Wang Wei: Galactic 26Al 1.8 MeV gamma-ray surveys with INTEGRAL

Giommi Paolo: Multi-frequency observations of Blazars

Jian-Min Wang: Cosmological evolution of supermassive black holes

Pulsar and Radio Astronomy

Zsolt Paragi: Compact Objects Near and Far with the European VLBI Network

Huang Lei: Constraining The Flare Region For Sagittarius A* By 1.3mm VLBI Measurements

Han JinLin: Pulsars as probes for ISM

Naso Luca: Magnetic field structure in accretion discs around neutron stars and consequences for the change of spin

Wang Na & Yuan Jianping: A decade of pulsar timing observations at Nanshan

Guojun Qiao: Radio and high-energy radiatio from normal and millisecond pulsars and the annular gap model

Yan Wenming: Polarization observations of 20 millisecond pulsars

Wang Wei: Distance of Gamma-ray Pulsars

Black Holes, Neutron Stars and White Dwarfs

Malheiro Manuel: SGRs and AXPs: White Dwarf Pulsars versus Magnetars

Abdildin, Meirkhan: On the unity of acceleration field and vortex field in GR mechanics

Belvedere Riccardo: Mass, Radius and Moment of Inertia of Neutron Stars

Sharif Muhammad: Tunneling of Dirac Particles

Ghulam Abbas: Perfect Fluid Accretion by the Interior of a Black Hole

Authors: M. Sharif and G. Abbas

Abstract: This paper deals with the perfect fluid accretion by the interior of a black hole in conformal gravity. We derive equation of motion for the accretion process by using energy conservation, Bernoulli equation and mass flux conservation equation. The conditions for critical accretion are explored. It is found that the mass of black hole increases due to perfect fluid (satisfying null energy condition) accretion. There exist two critical points that lie in the exterior of horizons. Results for accretion onto the Schwarzschild black hole can be recovered.

Kausar, Hafiza Rizwana: Shearfree Gravitational Collapse in $f(R)$ theory

This paper is devoted to study shearfree fluid collapse in modified $f(R)$ gravity. We assume stars with anisotropic fluid distribution which undergoes dissipation in the form of heat flow, null radiation and shearing viscosity. The vanishing of shear tensor plays an important role in self-gravitating system and appearance of naked singularity. We investigate some solutions in $f(R)$ theory under the assumption shearfree and discuss dynamical instability of spherically symmetric fluid distribution

High Energy Cosmic Rays

Westerhoff Stefan: Observation of Anisotropy in the Arrival Directions of Galactic Cosmic Rays with IceCube

Ricci Marco: The JEM-EUSO Mission

Shoushang Zhang: Hybrid measurement of CR light component spectrum by using ARGO-YBJ and WFCTA

Di Sciascio Giuseppe: Observation of cosmic ray anisotropy with ARGO-YBJ

Gaku Mitsuka: LHCf results and their relevance for the HECR physics

Siming Liu: Particle Acceleration in SNRs

CMB and Dark Energy

Hyung Won Lee: Evolution of distribution function for cosmological neutrino

Lukierski, Jerzy Andrzej: Generalized cosmological term from Maxwell symmetries

Zhang Yang: Analytic spectra of CMB anisotropies and polarization

Menegoni Eloisa: Constraining Variations in the Fine Structure Constant from next survey experiment

Tafel Jacek: Static spherically symmetric black holes with scalar field

Liu Hao: Current and future CMB data processing

Darabi Farhad: Power-law solutions in $f(G)$ gravity

Saturday 15th October 2011

X and Gamma Ray Astrophysics	Gravitational waves and precision tests of general relativity	General Relativity, GRBs, neutron star and supernovae	Astroparticle Physics	Cosmology, Large Scale Structure and Dark Matter
Room A308	Room A508	Room A135	Room A208	Room A408
Topic: Instrumentation and future missions in X-/gamma-ray astrophysics	Topic: Precision Measurements and Fundamental Physics	Topic: GRBs and S.N.	Topic: Dark Matter And UHE Cosmic Rays	Topic: Large Scale Structure
Chair: Fangjun Lu	Chairs: Francis Everitt	Chair: Wang Xiang-Yu	Chairs: Ji Xiangdong Bernabei Rita	Chairs: Hu Zhan
14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.30
<u>Enrico Virgilli</u> invited	<u>Tartaglia Angelo</u> invited	<u>Siutso Ivan</u> invited	<u>Scopel Stefano</u> invited	Zheng Zheng invited
14.30-15.00	14.30-14.45	14.30-15.00	14.30-15.00	14.30-15.00
Vincenzo Liccardo	Long-Sheng Ma	Han Wenbiao Invited	Qian Yue invited	Xueleì Chen invited
	14.45-15.00			
	<u>Hsien-Chi Yeh</u>			
15.00-15.30	15.00-15.30	15.00-15.30	15.00-15.30	15.00-15.30
<u>Webster Cash</u> invited	<u>Peng Hui</u>	<u>Bruce Gendre</u> invited	<u>Gao Fei</u>	<u>Ma Renyi</u>
<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>	<i>Coffee Break 20 min</i>
15.50-16.20	15.50-16.05	15.50-16.20	15.50-16.10	15.50-16.20
Hiroshi Tsunemi invited	<u>Ming-Sheng Zhan and Jin Wang</u>	<u>Zhuo Li</u> invited	<u>Yang Changgen</u>	Wang Tao
16.20-16.35		16.20-16.50	16.10-16.30	16.20-16.50
<u>Herman Marshall</u> invited		Jingsong Deng invited	<u>Ma Xinhua</u>	Keqiang Tang
16.35-16.50		16.50-17.20	16.30-16.50	
<u>Yongwei Dong</u>		Neda Bostani	<u>M. Martinez</u>	
16.50-17.05		17.20-17.50		
Bobing Wu		<u>Gao Yang</u>		
		Poster session: Xiaohong Zhao, Xuhui Han, Fanying Wang, Liping Xin, Mouyuan Sun, Fuweng Zhang, Xionghong Cui, Zhaosheng Li		

INSTRUMENTATION AND FUTURE MISSIONS IN X-/GAMMA-RAY ASTROPHYSICS

Enrico Virgilli: Laue Lens development for high energy astrophysics: status and prospects

Webster Cash: X-ray Spectroscopy of Hot Gas in the Milky Way and Beyond

Herman Marshall: X-ray Polarimetric Astronomy in the United States

Yongwei Dong: The X-ray Timing and Polarization Mission Concept

PRECISION MEASUREMENTS AND FUNDAMENTAL PHYSICS

Tartaglia Angelo: Measuring gravito-magnetic effects by means of ring lasers

Hsien-Chi Yeh: Inter-satellite laser interferometry for space science missions

Peng Hui: Ground-based Experiments to Test Gravito-magnetic Force

Ming-Sheng Zhan and Jin Wang: Towards a high precision test of the Equivalence Principle with a 10 m fountain atomic interferometer

Faridi Ayub: Isometric Embeddings on K-Surfaces in Schwarzschild Geometry

Mashoor Al-Wardat: A Method for estimating Parallaxes of VCBS: a modification to Hipparcos parallax measurements

GRBs AND S.N

Bruce Gendre: Scientific striptease: GRB 110205A exposes the fireball model

Gao Yang: Relativistic Detonation and Deflagration Waves in Astrophysics

Siutsou Ivan: Kinetic relaxation timescales of mildly relativistic semidegenerate electron-positron plasma

Xiaohong Zhao: A simple explanation for the energy dependence of GRB pulse width

DARK MATTER AND UHE COSMIC RAYS

Scopel Stefano: Searching for light neutralinos at the LHC

M. Martinez: Development of scintillating bolometers for dark matter searches

Qian Yue: Progress in CDEX and CJPL

Gao Fei: Searching for Dark Matter with XENON100

Yang Changgen: DarkSide - A dark matter search program with Depleted Argon

Ma Xinhua: Technical aspects in dark matter investigations

M. Martinez: Development of scintillating bolometers for dark matter searches

LARGE SCALE STRUCTURE

Zheng Zheng: Radiative Transfer Modeling of Lyman Alpha Emitters and New Effects in Galaxy Clustering

Wang Tao: CANDELS: SEDs and Morphologies of Massive galaxies at $z \sim 2$

Ma Renyi: Cosmological Shock Waves in the Large Scale Structure of the Universe