

















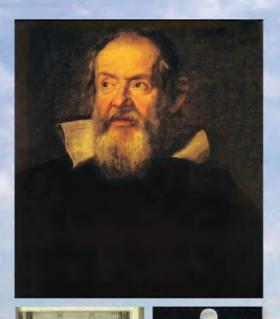




# International Year of 2009 Astronomy 2009

the sun, the stars, the universe and

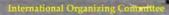
General Relativity



The First Galileo-Xu Guangqi Meeting

> October 26-30, 2009, Shanghai, China

hosted by Shanghai Astronomical Observatory **ICRANet** 



Yuan Feng, Zhang Shuangnan, Zhang Yang

Img Yipeng (chair), Yuan Feng, Zhao, Donghai, Zhao Lingli, Zhang Peng Zhou Lingvu

#### Public Lectures in evening

(ICRANet and University of Rome, Italy)

egional Collaboration in Gravitational

Info at: www.icranet.org Mail contact: secretariat@icranet.org

# The First Galileo-Xu Guangqi Meeting The Sun, The Star, the Universe and General Relativity Shanghai - 26-30 October, 2009

			Shanghai - 2	6-30 Octob	er, 2009			
DAY 1 - 26 October  Large scale structures of the Universe, Galaxy formation and clustering		DAY 2 – 27 October		DAY 3 – 28 October		DAY 4 – 29 October		
		Interna	vitational waves and tional Collaboration in vitational Astronomy	General relativity, GRBs, neutron star and supernovae I  Chair: Della Valle Massimo INAF-		General relativity, GRBs, neutron st and supernovae II Chair: Zhang Shuangnan (Tsinghua		
Chair: Jing Yipeng (Shanghai Observatory – Chinese Academy of Sciences, China) Co-chair: Remo Ruffini (ICRANet and University of Rome, Italy)		Weste	avid Blair (University of OA, Arcetri) A Australia, Australia) Tan (Nanjing University, China)  Chair. Belia Valle Massimo INAL Co. Chair. She Sheng Xue (ICRANet)		Univesity Co-chair: Volodia Belinski (ICRANet, Ital			
Opening Speeches: 9:00-9:05 Jing Yipeng 9:05-9:10 Remo Ruffini								
			Morn	ing Sessio	n			
9:10-9:50	Carlos Frenk	9:00-9:40	Jay Marx (California Inst of Techn)	9:00-9:30	Zhen Cao (IHEP- Chinese Acad)	8:30-9:00	Della Valle Massimo (INAF-OA, Arcetri, Italy)	
9:50-10:30	Houjun Mo	9:40-10:20	Linqing Wen (Univ Western Australia)	9:30-10:00	Costa Enrico (Univ of Ferrara)	9:00-9:30	Chakrabarti Sandip P. (Bose Centre and Indian Centre for Space Physics)	
10:30-10:50	Coffee Break	10:20-10:50	Coffee Break Conference Photo	10:00-10:30	Vissani Francesco (INFN-LNGS, Italy)	9:30-10:00	Pisin Chen (National Taiwan Univ - SLAC)	
10:50-11:30	Robert Nichol	10:50-11:30	Rana Adhikari (California Inst of Techn)	10:30-10:50	Coffee Break	10:00-10:20	Coffee Break	
11:30-12:10	Lifan Wang	11:30-12:10	Kazuaki Kuroda (Tokyo University)	10:50-11:20	Zhang Shuangnan (Tsinghua Univesity)	10:20:10:50	Hernando Quevedo Cubillos (UNAM, Mexico)	
,		13.30 Depo	osition of Flowers	11:20-11:50	Paolo Natoli	10:50-11:20	Ruffini Remo	

	Afterr	noon Session	
Parallel Sessions on: Large scale Structures	Parallel Sessions on:  Large scale Structures	Parallel Sessions on: Large scale Structures	
Gravitational Waves	Gravitational Waves	Gravitational Waves	
General Relativity	General Relativity	General Relativity	

11:50-12:20

(Univ of Rome, Italy)

Chincarini Guido

(Univ of Milan, Italy)

11:20-11:50

(Univ of Rome and ICRANet)

Rueda Hernandez Jorge A. (Univ of Rome and ICRANet)

on the Statue of Xu Guangi

#### Plenary Session talks:

### Monday 26<sup>th</sup> October

Carlos Frenk: Tests of the cosmological paradigm

Houjun Mo: Galaxy groups and cosmology

Robert Nichol: Large scale structures from SDSS

Lifan Wang: future explorer of dark energy -Kunlun Dark Universe Survey Telescope (KDUST)

### Tuesday 27<sup>th</sup> October

Jay Marx: Introducing the GWIC Roadmap for Gravitational Astronomy

Linqing Wen: Identifying Gravitational Wave Sources and Their Electromagnetic Counterparts

Rana Adhikari: The Enhanced and Advanced LIGO Detectors

Kazuaki Kuroda: Cryogenic Advanced Gravitational Wave Detectors

#### Wednesday 28<sup>th</sup> October

Zhen Cao: The ARGO-YBJ Experiment Progresses and Future Extension at the Tibet Site

Costa Enrico: The status and the major results of the Mission AGILE

Vissani Francesco: Monitoring gravitational collapses with neutrinos: SN1987A and the future

Zhang Shuangnan: Does free-fall collapse form "frozen star" or singularity

Natoli Paolo: Cosmology with Planck

Chincarini Guido: GRB Flares as observed by Swift – XRT

#### Thursday 29th October

Della Valle Massimo: Latest Highlights on the Supernova Gamma-ray Bursts Connection

Chakrabarti Sandip P.: The Unified Paradigm of Accretion flows on to black holes

Pisin Chen: The Dark Energy Puzzle

Quevedo Cubillos Hernando: On the existence of naked singularities

Ruffini Remo: Fundamental Physics from Black Holes, Neutron Stars and Gamma-Ray bursts

Rueda Hernandez Jorge: The role of compressed electrons: from nuclei to neutron stars

	DAY 1 - 26 October	DAY 2 - 27 October	DAY 3 - 28 October	DAY 4 - 29 October
18:00	Banquet on cruise in Pujiang River	Public Lecture at Italian Cultural Centre MMC (Modern Management Centre). Address: Room 505, No. 66, Xingfu Road, Shanghai	Public lecture in Jiaotong University by Remo Ruffini	Public lecture in Fudan University by David Blair
		Speakers:  Ruffini Remo Da Galileo e Xu Guangqi all'astrofisica relativistica di Einstein  Xue She-Sheng La mia esperienza scientifica in Italia  Meschini Giorgio (Mayor of Macerata) Macerata, città della nascita di Matteo Ricci  Benoit Vermander (Director of Ricci Institute at Fudan University) Matteo Ricci e Xu Guangqi e una leadership spirituale in un grande successo scientifico  Presentation of the Erasmus Mundus IRAP Ph D program by: Chardonnet Pascal (France) Rosquist Kjell (Sweden) Chakrabarti Sandip (India)	From the Astrophyisics of Galileo to the Relativistic Astrophysics of Albert Einstein	

## Afternoon Session General relativity, GRBs, neutron star and supernovae

	DAY 1 - 26 October	I	DAY 2 - 27 October		DAY 3 - 28 October	DAY 4 - 29 October	
	Chairs: Giannone Pietro Zhang Chengmin		Chairs: Rosquist Kjell Enwei Liang		Chairs: Pascal Chardonnet Xiangyu Wang	Chair: Pascal Chardonnet	
13:30-14:00	Rosquist Kjell (Univ of Stockholm)  25 min + 5 min discussion	14:30-15:00	Vigorito Carlo (Univ of Turin, Italy) 25 min + 5 min discussion	14:30-15:00	Pascal Chardonnet (Univ of Savoie) 25 min + 5 min discussion	Discussion on collaboration optical X and Gamma-ray astrophysics	
14:00-14:30	Belinski Vladimir (ICRANet)  25 min + 5 min discussion	15:00-15:30	Giannone Pietro (Univ. of Rome)  25 min + 5 min discussion	15:00-15:30	Enwei Liang (Guangxi University) 25 min + 5 min discussion	Bianco Carlo Luciano Caito Letizia Chincarini Guido	
14:30-15:00	Jerzy Lukierski (Univ of Wrocław, Poland) 25 min + 5 min discussion	15:30-16:00	Xiangyu Wang (Nanjing University, China)  25 min + 5 min discussion	15:30-16:00	Nagataki Shigehiro (Kyoto University) 25 min + 5 min discussion	Costa Enrico Della Valle Massimo Izzo Luca Liang Enwei	
15:00-15:25	Scardigli Fabio (National Taiwan Univ) 20 min + 5 min discussion	16:00-16:20	Coffee Break	16:00-16:20	Coffee Break	Margutti Raffaella Nagatakai Shigehiro Patricelli Barbara Rueda Hernandez J.	
15:25-15:50	Lee Wonloo (Sogang Univ, South Korea) 20 min + 5 min discussion	16:20-16:45	Zhang Chengmin (NAOC, China) 20 min + 5 min discussion	16:20-16:40	Letizia Caito (Univ. of Rome) 15 min + 5 min discussion	Ruffini Remo Vissani Francesco Wang Xiangyu Xue She-Sheng	
16:00-16:20	Coffee Break	16:45-17:10	Lorenzo Iorio (INFN, Pisa) 20 min + 5 min discussion	16:40-17:00	Margutti Raffaella (Astronomical Observ Brera)  15 min + 5 min discussion	Zhang Shuangnan	
16:20-16:45	M. B. Paranjape (Université de Montréal)  20 min + 5 min discussion	17:10-17:35	Izzo Luca (Univ of Rome) 20 min + 5 min discussion	17:00-17:20	Patricelli Barbara (Univ. of Rome) 15 min + 5 min discussion		

			Afternoon				
				ty (Regional	Collaboration in Gravitational A		
	Day1 - 26 October	Day2 - 27 October			Day3 - 28 October	Day4 -29 October	
	e future of Gravitational		nd Technology for		sis Challenges of Gravitational	Workshop on Regional	
Astronomy			al Astronomy	Astronomy		Collaboration in GW	
Co-Chairs:		Co-Chairs		Co-Chairs		Detection	
	Zhao (UWA),	Li Ju (UWA		Weitou Ni (	,	Co-Chairs	
Edna Cheur	ng (Nanjing University)	Zhonghong	Zhu (Beijing N. U)	Stan Whitee	omb (LIGO)	Bala Iyer (RRI, India),	
						Junwei Cao (Tsinghua U)	
14:30-15:00	Bernard Schutz (AEI):	14:45-15:15	Jesper Munch (U.	14:30-15:00	Yang Zhang (USTC):	David Reitze (LSC):	
	Enhanced Science from		Adelaide):		Stochastic background	Managing large international	
	Advanced Detectors in		The AIGO Project		gravitational waves from the	collaborations	
	Asia				Big Bang		
15:00-15:30	Bala Iyer (RRI):	15:15-15:45	Adalberto Giazotto	15:00-15:30	Sanjeev	CS Unnikrishnan	
	Gravitational Waveforms		(VIRGO):		<b>Dhurandhar</b> (IUCAA):	Plans for developing GW	
	for Binary Black Holes		The Advanced Virgo		Coherent versus coincidence	Astronomy in India	
			Interferometer		search for inspirals		
15:30-16:00	Weitou Ni (PMO):	15:45-16:15	Chunnong Zhao	15:30-16:00	Junwei Cao (Tsinghua U &		
	Spacecraft Gravitational		(UWA):		LIGO):		
	Wave Detectors		Controlling Instabilities		Real-time GW Burst Search in		
			in High Power		the LIGO S6 Run		
			Interferometers				
16:00-16:20	Coffee break	16:15-16:35	Coffee/Tea Break	16:00-16:20	Coffee/Te		
16:20-16:50	Stan Whitcomb (LIGO):	16:35-17:05	Li Ju (UWA):	16:20-16:50	Tarun Souradeep (IUCAA):	Panel discussion:	
	How to Build a		Advanced Vibration		Mapping the stochastic GW	The Way forward for	
	Gravitational wave		Isolation Systems for		background	Extending the Worldwide	
	Detector		AIGO			Gravitational Wave Detector	
						Array.	
16:50-17:20	Francesco Fidecaro	17:05-17:35	David McClelland	16:50-17:20	Maria Alessandra Papa		
	(VIRGO):		(ANU):		(LSC):		
	The Virgo Detector and		Quantum Squeezing in		GW data analysis challenges		
	future enhancements		Advanced GW		and results with the current		
			detectors		network of operating detectors		
17:20-17:50	Yun-Kau Lau:	17:35-18:05	Jun Luo (Huazhong	17:20-17:50	<b>Keyun Tang</b> (17:20-17:40)		
	Quantum interferometry as a		U):		Preliminary Evidences to Show		
	way to probe the foundation		Precision Measurement		the Existences of		
	of quantum theory		of G		Gravitomagnatism		

			Afternoo	n Session s and Galaxy f	ormation		
DAY 1 - 26 October  Galaxies  and their environments  Chair: Carlos Frenk		DAY 2 - 27 October  Large scale structures at low and high redshifts Chair: Xiaohu Yang		DAY 3 - 28 October  Dark energy: theories and future experiments Chair: Weipeng Lin		DAY 4 - 29 October  Future collaborations of the Chinese Community with the world Chair: Houjun Mo	
14:30-15:10	Changbom Park, Topology of Large-Scale Structure Traced by Different Types of Galaxies	14:30-15:10	Will Percival, Cosmological Constraints from Galaxy Clustering	14:30-15:10	Bin Wang: The interaction between DE and DM	14:30-15:10	Yipeng Jing: An outline of recent and future Chinese projects in the field, and an introduction of Shanghai Astronomical Observatory
15:10-15:40	Cheng Li: The distribution of stellar mass-to-light ratio in the local Universe	15:10-15:35	Donghai Zhao, The Growth and concentration of dark matter halos	15:10-15:40	Pengjie Zhang Testing gravity at cosmological scales: from linear to non- linear regimes		More short talks on the topic can
1540-16:10	Coffee Break	15:35-16:00	Yue Shen, TBD	15:40-16:20	Andreas Albrecht:, Dark Energy: Current theoretical issues and progress toward future experiments		be added.
16:10-16:50	Xiaohu Yang HOD: Lighting dark matter halos with galaxies	16:00-16:20	Coffee Break	16:20-16:40	Coffee Break	16:20-16:40	Coffee Break
17:00	Leaving for the Banquet	Ch	air: Bob Nichol	C	hair: Luigi Guzzo		
		16:20-17:00	Luigi Guzzo, Understanding The Origin Of Cosmic Acceleration With Galaxy Redshift Surveys	16:40-17:20	Tony Tyson: Probing Dark Energy with the Large Synoptic Survey Telescope	16:40	Discussion
		17:00-17:30	Martin Kilbinger, Cosmological parameters from weak gravitational lensing - recent results from CFHTLS	17:20-17:50	Hu Zhan Rees, Sciama Effect of Super Structures	18:30	Dinner of the Session

	and COSMOS			
17:40-18:05	Weipeng Lin, The baryonic effect on the properties of dark matter halos	17:50-18:05	Jamil, Mubasher: Interacting new generalized Chaplygin gas	
18:05-18:30	Cesario Almeida: Modelling the dusty universe			

#### First Galileo-Xu GuangQi - List of participants

Participant	Institution	Country
Blair, David	School of Physics, The University of Western Australia	Australia
Davidson, Jacqueline	The University of Western Australia	Australia
an, Yaohui	School of Physics, The University of Western Australia	Australia
u, Li	School of Physics, The University of Western Australia	Australia
Acclelland, David	The Australian National University	Australia
Munch, Jesper	The University of Adelaide	Australia
Ven, Linqing hao, Chunnong	School of Physics, The University of Western Australia School of Physics, The University of Western Australia	Australia Australia
hmad, Mushfiq	Rajshahi University	Banglades
losquera Cuesta, Herman J.	Instituto de Cosmologia, Relatividade e Astrofísica (ICRA-BR)/CBPF	Brazil
lacKenzie, Richard	Université de Montréal	Canada
aranjape, Manu Paranjape	Université de Montréal	Canada
ing, Chen	ShangHai University	China
ostani, Neda	Institute of High Energy Physics	China
ao, Junwei	Research Institute of Information Technology	China
ao, Xiaofeng	Shanghai Astronomical Observatory, Huazhong Normal University	China
ao, Xinwu	Shanghai Astronomical Observatory, CAS	China
ao, Zhen	Institute of High Energy Physics	China
nen, Li	Shanghai Observatory	China
ao, Gangjie	Shanghai Astronomical Observatory	China
ao, Jiangong	Urumqi Observatory	China
an, Jianling	Shanghai Astronomical Observatory	China
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u, Yiming	Nanjing University	China
, Xiangdong	Shanghai Jiaotong University, Department of Physics	China
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ang, Xi	Purple mountain observatory	China
iang, Enwei	Department of Physics, Guangxi University	China
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an, Yuanyue	National Astronomical Observatories , Chinese Academy of Sciences	China
hen, Shiyin	Shanghai Astronomical Observatory	China
ang, Keyun	Institute of Geology and Geophysics, Chinese Academy of Sciences	China
u, Liangcheng	Dep of Phys, Huazhong University of Science and Technology	China
ung, Roh-Suan	Center for Astrophysics, Shanghai Normal University	China
ermander, Benoit	Fudan University	China
Vang, Bin	Fudan University	China
Vang, Fayin	Nanjing University	China
Vang, Fayin	Nanjing University	China
Vang, Hong-Guang	Center for Astrophysics, Guangzhou University	China
Vang, Jing	National Astronomical observatories, Chinese Academy of Sciences	China
Vang, Wenting	Shanghai Astronomical Observatory	China
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Venbiao, Liu	Department of Physics, Beijing Normal University	China
an, Jinzhong	Changsha Jiageer Machinery Manufacturing Co.,LTD.	China
an, Sancheng	Baotou Vocational Technical College	China
ang, Xiaofeng	Shanghai Astronomical Observatory, Chinese Academy of Sciences	China
ang, Xiaohu	Shanghai Astronomical Observatory	China
, Xing	Shanghai Astronomical Observatory	China
uan, Feng	Shanghai Astronomical Observatory	China
ın Kau, Lau	Institute of Applied Mathematics, Chinese Academy of Sciences, Beijing	China
nan, Hu	National Astronomical Observatories of China	China
hang, Chengmin	NAOC	China
nang, Pengjie	Shanghai Astronomical Observatory	China
nang, Shuang-Nan	Tsinghua University	China
nang, Tong-Jie	Department of Astronomy, Beijing Normal University	China
nang, Wei	NAOC	China
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elgado, Camilo	Nacional University of Colombia	Colombia
hardonnet, Pascal	University of Savoie	France
rishnan, Badri	Max Planck Insitute for Gravitational Physics	Germany
, Cheng	Max-Planck-Institute for Astrophysics	Germany
apa, M.Alessandra	Max Planck Institute for Gravitational Physics and University of Wisconsin Milwaukee	Germany
chutz, Bernard	Albert Einstein Institute	Germany
hakrabarty, Sandip Kumar	S.N. Bose National Centre for Basic Sciences,	India
hurandhar, Sanjeev	Inter-University Centre for Astronomy & Astrophysics	India
Outta, Pratima	Gauhati University	India

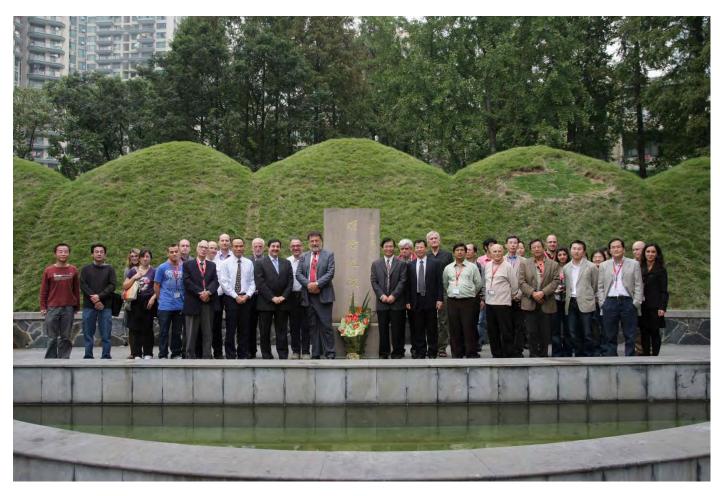
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Floodsmore, Tentil			India
Belmand, Valeriman   ICRANET   Italiano, Carlos Luciano   ICRANET   Italiano, Carlos Luciano   ICRANET   Italiano, Carlos Lucitiano   ICRANET   Italiano, Carlos Lucitiano   ICRANET, ICRANET, ICRA and "Soplemo" (Inherestry   Italiano, Icramatica)   Italiano, Icramatica   Italiano,	-		
Sianco, Carlo Luciano  Ciato, Lettisia  (IGRAVet, ICRA and "Sopienca" University  Itali Capacicili, Massimo  Milano Bisocco University - Astronomical Observatory of Brena  Itali Costa, Enrisco  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica di Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica de Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica de Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica de Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica de Roma, INAF  Istituto d'Astrofisco Spaciale e fisica Cosmica de Roma, InAF  Istituto d'Astrofisco Spaciale e fisica Cosmica de Roma, InAF  Istituto d'Astrofisco Spaciale e fisica Cosmica d'Astrofisco Spa	·		
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Capación   Massimo	-		
Chinearini, Guido Milano Biscocco University - Astronomical Observatory of Brero Island Cristanton (Section Control of Section			Italy
Costa_Enrico			Italy
Telephone	Costa, Enrico	Istituto di Astrofisica Spaziale e fisica Cosmica di Roma, INAF	Italy
Indication, Francesco	Della Valle, Massimo	INAF-Napoli & ICRANet, Pescara	Italy
Giannone, Martia Gisella  Accompanying person  Ital Gianone, Pietro  Physics Department University "Sopienzo"  Ital Giazotto, Adalberto  INFN  Idai Giazotto, Adalberto  INFN  Idai Han, Wen-Bao  ICRA  ILIA Han, Wen-Bao  ICRA  ILIA ILIA ILIA ILIA ILIA ILIA ILIA I	Di Criscienzo, Roberto	UNIVERSITA DEGLI STUDI DI TRENTO - DIPARTIMENTO DI FISICA	Italy
Gianone, Pietro Giavotto, Adalberto NER Itali Giazotto, Culigi NAF - OSSERVATORIO ASTRONOMICO DI BRERA Itali Lorio, Lorenzo NIVIN-Piso Itali Lorio, Lorenzo NIVIN-Piso Itali Lorio, Lorenzo University of Rome "Sopienzo" and LCRA Itali Lorio, Lorenzo University of Rome "Sopienzo" and LCRA Itali Margutt, Raffaelia Natoti, Paolo University of Mocerata Itali Natoti, Paolo University of Mocerata Itali Natoti, Paolo University of Rome "Lo Sopienzo" Itali Raffaratara University of Rome "Lo Sopienzo" Itali Ruffini, Remo Sigismondi, Costantino ICRA, International Center for Relativistic Astrophysics Itali Siutsou, Ivan ICRANet Itali Vigorito, Carlo Francesco INFN, Loboratroni Nazionali del Gran Sasso Itali Vigorito, Carlo Francesco INFN, Loboratroni Nazionali del Gran Sasso Itali Vigorito, Carlo Francesco INFN, Loboratroni Nazionali del Gran Sasso Itali Vigorito, Carlo Francesco Infini Nazionali del Gran Sasso Itali Nasani, Aligeliro Tokyo Institute of Technology Inpi Nagataki, Shigeliro Tity Pystot University of Tokyo Inpi Nagataki, Shigeliro Tity Pystot University Itali Nasani, Paranoli Razaki National University of Tokyo Inpi Nagataki, Shigeliro Tity Pystot U		Università di Pisa - INFN - EGO	Italy
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Face	·		Italy
Han, Wen-Black   LICRA			Italy
Info.   Info			
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Margutti, Raffaella   Astronomical Observatory of Brera   Itali		oniversity of korne suprenzu und ICKA	
Meschin, Giorgio Municipality of Macerata (1ah Natal), Paolo University of Rome "Tor Vergata" (1ah Natal), Paolo University of Rome "Los Sopienza" (1ah Patricelli, Barbara University of Rome "Los Sopienza" (1ah Ruffin, Remo University of Rome "Los Sopienza" (1ah Ruffin, Remo University of Rome "Los Sopienza (1ah Ruffin, Remo (1ah Ruff	-	Astronomical Observatory of Reera	
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Detricelli, Barbara   University of Rome "Lo Sopienzo"   Ital			Italy
CICANVET   Ital	-	<u>*</u>	
Ruffini, Remo         ICRANet         Ital           Sigismondi, Costantino         ICRA, International Center for Relativistic Astrophysics         Ital           Sigismondi, Costantino         ICRA, International Center for Relativistic Astrophysics         Ital           Vissani, Francesco         INFN & UNIVERSITY TORINO         Ital           Vissani, Francesco         INFN, Loboratori Nazionali del Gran Sasso         Ital           Vissani, Francesco         Accompoining person, the wife of prof. V. Belinski         Ital           Vissani, Francesco         Accompoining person, the wife of prof. V. Belinski         Ital           Asano, Katsuaki         Tokyo Institute of Technology         Japa           Asano, Katsuaki         Tokyo Institute of Technology         Japa           Suto, Yasushi         Department of Physics, University of Tokyo         Japa           Abdidldin, Meirkhan         Al-Farabi Kazakh National University         Kazakh           Boshkayev, Kuantay         Al-Farabi Kazakh National University         Kazakh           Boshkayev, Kuantay         Al-Farabi Kazakh National University, Department of Physics         Kazakh           Ali Soumali, Abdou         Faculté des Sciences Robat-Agdal Morocco         Moro           Kafie, Prajavia Raj         University Compus, Central Department of Physics, Tribhuvan University         Nep     <	Quevedo, Hernando		Italy
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Participants of the 1st Galileo-XuGuangqi meeting 26-30 October, 2009 - Shanghai



Remo Ruffini and Xiaoyu Hong, Director of the Shanghai Observatory XuGuangqi Monument – 27 October, 2009





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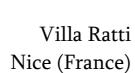
Di Berardino, Federica • Latorre, Silvia • Regi, Massimo

## **PROGRAM**

# 2<sup>nd</sup> Galileo-XuGuangqi Meeting 11-16 July 2010



Villa Hanbury Ventimiglia (Italy)























































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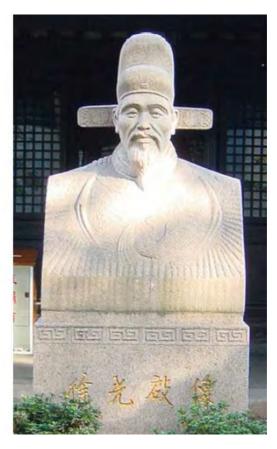
- o ICRANet Representatives in the Steering and Scientific Committee
- Faculty
- \* Secretariat and Administration

## 2nd Galileo-XuGuangqi Meeting

con il contributo del Ministero degli Affari Esteri, Direzione Generale per la Promozione e la Cooperazione Culturale

## Sunday July 11, 2010 Hanbury Botanic Gardens (Ventimiglia) 16:00 – 19:00 Registration





The "Galileo - Xu Guanqi meetings" have been initiated in 2009 to celebrate the 400th anniversary of the use by Galileo Galilei of the telescope in order to study the structure of our Universe. The meetings dedicated to recall the European roots of the modern scientific research in China and in the Orient and communicate the recent progress in one of the most advanced fields of scientific research: the one of relativistic astrophysics. These results are achieved on the ground of the theories of Albert Einstein and thanks to unprecedented numbers of observational techniques: in X-ray, Gamma-ray, optical wave-lengths from space based observatories, in radio telescopes wavelengths from telescopes on the ground as well as in particle physics from underground observatories. The name of Xu Guangqi, the most eminent collaborator of Matteo Ricci (Ri Ma Dou), celebrates his activities in bringing to China the works of Euclid and Galileo and his fostering the modernization and scientific development of China. The "Galileo – Xu Guanqi Meetings" are called every year, alternatively in the East and in the West, to promote the scientific cooperation of Eastern Countries, including China and Korea with the international scientists in the field of Relativistic Astrophysics.

## Monday Morning - July 12

## Black Holes, Neutron Stars and Dark Matter

## Chairperson: Shuang-Nan Zhang

8:30	Welcoming Address:
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University of Genova

University of Nice – Sophia Antipolis

ICRANet (International Center for Relativistic Astrophysics)

Free University of Berlin

ICTP (International Center for Theoretical Physics)

INFN (National Institute of Nuclear Physics)

Italian Foreign Ministry

KASI (Korea Astronomy and Space Science Institute)

LeCosPa (Leung Center for Cosmology and Particle Astrophysics)

NAOC (National Astronomical Observatories, Chinese Academy of Sciences)

## 9:00 Roy Kerr *(30 minutes)*

Stationary axisimmetric metrics

#### 9:30 Belinski Vladimir (20 minutes)

Stationary Einstein-Maxwell Solitons

Bravetti Alessandro (10 minutes)

On The Correspondence Between Extremal Black Holes and real poles

in the ISM for electro-vacuum

## 10:00 Arnett David (30 minutes)

What determines the Rotational State of a Collapsing Star?

#### 10:30 coffee break

## 10:50 Rueda Jorge (20 minutes) and

Pugliese Daniela (10 minutes)

A general relativistic Thomas-Fermi treatment of neutron star cores

#### 11:20 Rotondo Michael (20 minutes)

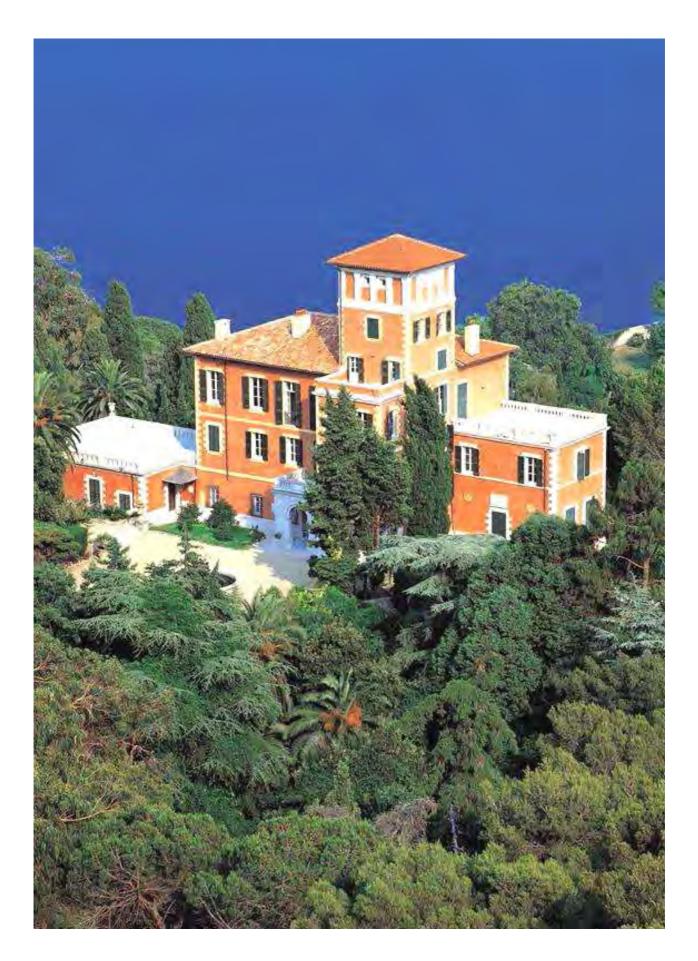
On the relativistic Thomas-Fermi treatment of compressed atoms and compressed nuclear matter cores of stellar dimensions

Boshkayev Kuantay (10 minutes)

On Magnetic Fields in Neutron Stars

## 11:50 Coppi Bruno (30 minutes)

Gedanken and Shining Black Holes



Villa Hanbury

# Monday Afternoon - July 12

# Chairperson: Song Doo Jong

14:30	Filippi Simonetta (15 minutes) and Cherubini Christian (15 minutes) Rotating Self-gravitating Systems and Clebsch Theory: the acoustic effective geometry approach
15:00	Zhang Chengmin (30 minutes) Neutron Star Mass and Strong Gravity - Implications of kHz QPOs
15:30	Hyun Kyu Lee <i>(30 minutes)</i> Structure of compact star with dense hadronic matter at the core
16:00	Coffee Break
16:20	Bini Donato (20 minutes) Poynting-Robertson effect in black hole spacetimes Haney Maria (10 minutes) Neutron Stars Pulsations
16:50	Geralico Andrea <i>(20 minutes)</i> and Pompi Francesca <i>(10 minutes)</i> Einstein Clusters and Black Holes
17:20	Shuang-Nan Zhang (30 minutes) On the nature of Z-sources: neutron star magnetic field, accretion disk structure and evolution
17:50	Mohammadi Rohoollah <i>(30 minutes)</i> Solution to Thomas-Fermi equation in the presence of strong magnetic fields

# Tuesday Morning - July 13

## Large Scale Structure and Early Universe

## Chairperson: Lee Chul-Hoon

8:30	Mo Houjun <i>(30 minutes)</i> A Bayesian approach to the semi-analytic model of galaxy formation
9:00	Amati Lorenzo (30 minute) Measuring cosmological parameters with GRBs
9:30	Einasto Jaan <i>(30 minutes)</i> Large Scale Structure of the Universe - a powerful probe for fundamental physics"
10:00	Fang Li-Zhi <i>(30 minutes)</i> Nonlinear evolution of cosmic baryon matter
10:30	coffee break
10:50	Rosquist Kjell <i>(30 minutes)</i> Constraints of initial data for a discrete universe
11:20	Kleinert Hagen (30 minutes) New Gauge Invariance of Gravity and the Fate of Torsion
11:50	Damour Thibault (20 minutes) and Lecian Orchidea Maria (10 minutes)  About the Statistical Properties of Cosmological Billiards





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# Tuesday Afternoon - July 13

# Chairperson: Farrock Vakili

14:30	
15:00	Ferrari Chiara (20 minutes) Non-thermal phenomena in galaxy clusters
15:30	Melchiorri Alessandro (20 minutes) Cosmic Microwave Background Anisotropies: Current Status and prospects Pandolfi Stefania (10 minutes) Harrison-Zel'dovich primordial spectrum is consistent with observations
16:00	Coffee Break
16:20	Gao Yu <i>(30 minutes)</i> Star Formation Laws in Galaxies
16:50	Kim Sung-Won <i>(30 minutes)</i> Cosmological perturbation and Dark Energy
17:20	Chen Xuelei (30 minutes) Topics in 21cm cosmology
17:50	Scardigli Fabio (15 minutes)  Pre-inflation matter era and the CMB power spectrum



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# Wednesday Morning - July 14 Astroparticle Physics and Astrophysics

Chairperson: Einasto Jaan

8:30	Vissani Francesco (30 minutes)
	Progresses in neutrino astronomy
9:00	Ruffini Remo (30 minutes)
	Black holes in GRBs and galactic nuclei
9:30	Ruchayskyi Oleg
	Sterile neutrino dark matter
10:00	Aharonian Felix <i>(20 minutes)</i>
	Exploring galactic and extragalactic particle accelerators with X-rays,
	gamma-rays and neutrinos Sabakwan Narak (10 minutes)
	Sahakyan Narek (10 minutes)  On the origin of high energy gamma-rays from giant radio lobes of
	Centaurus A.
10:30	Coffee Break
10:50	Chakrabarti Sandip <i>(30 minutes)</i>
	Black Hole Accretion: How do the variable and outburst sources do it?
11:20	Cremonesi Oliviero (30 minutes)
	Neutrinoless Double Beta Decay Searches
11:50	Belli Pierluigi – DAMA <i>(30 minutes)</i>
	Particle Dark Matter in the galactic halo: results from DAMA/LIBRA



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# Wednesday Afternoon - July 14

# Chairperson: Chardonnet Pascal

Yang Xiaohu <i>(30 minutes)</i>
The evolution of galaxies: central vs satellite
Pisin Chen (30 minutes)
Gauge Theory of Gravity with de Sitter Symmetry as a Solution to the
Cosmological Constant Problem and the Dark Energy Puzzle
Bourguignon Jean-Pierre (30 minutes)
Ricci flow and the solution of the Poincaré conjecture by Grisha
Perelma
July 14th Nice Parade
Visit at Villa Ratti
Banquet at the Observatoire de la Côte d'Azur



Villa Ratti and its garden

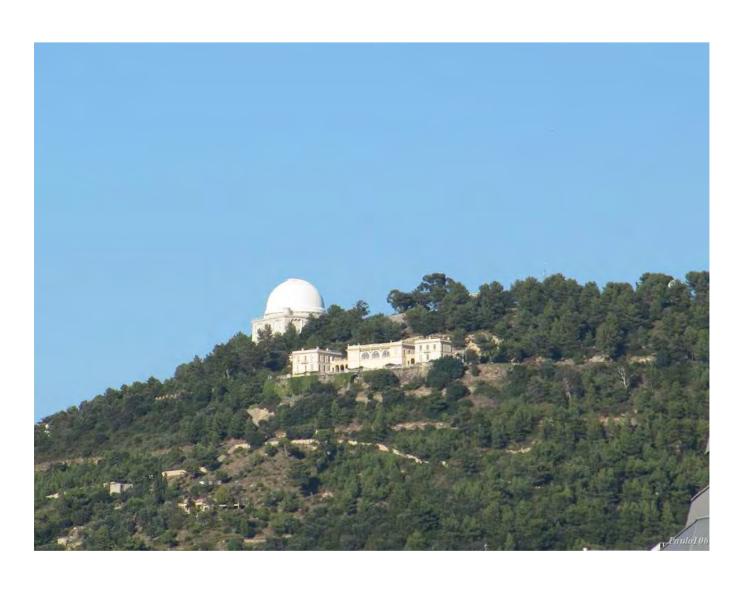


## Thursday Morning, July 15, 2010

## Ultra High Energy Sources and Gamma Ray Bursts

Chairperson: Harutyunyan Hayk

8:30	Nicolai Hermann <i>(30 minutes)</i> Symmetries and Singularities
9:00	Boer Michel (30 minutes) Rapid multi-wavelength observations of gamma-ray bursts
9:30	Frontera Filippo <i>(30 minutes)</i> The time resolved spectra of Gamma Ray Bursts
10:00	Xue She-Sheng (20 minutes) and Han Wenbiao (10 minutes) Electron-positron pair oscillation in spatially inhomogeneous electric fields and radiation
10:30	Coffee Break
10:50	Vereshchagin Gregory (20 minutes) Hydrodynamics of the optically thick phase in GRBs De Barros Gustavo (10 minutes) Numerical analysis of an optically thick plasma
11,20	Aksenov Aleksey <i>(20 minutes)</i> and Siutsou Ivan ( <i>10 minutes) RB</i> Pair winds from compact objects with an application to GRBs
11,50	Izzo Luca (30 minutes)  The Ultra Relativistic GRBs



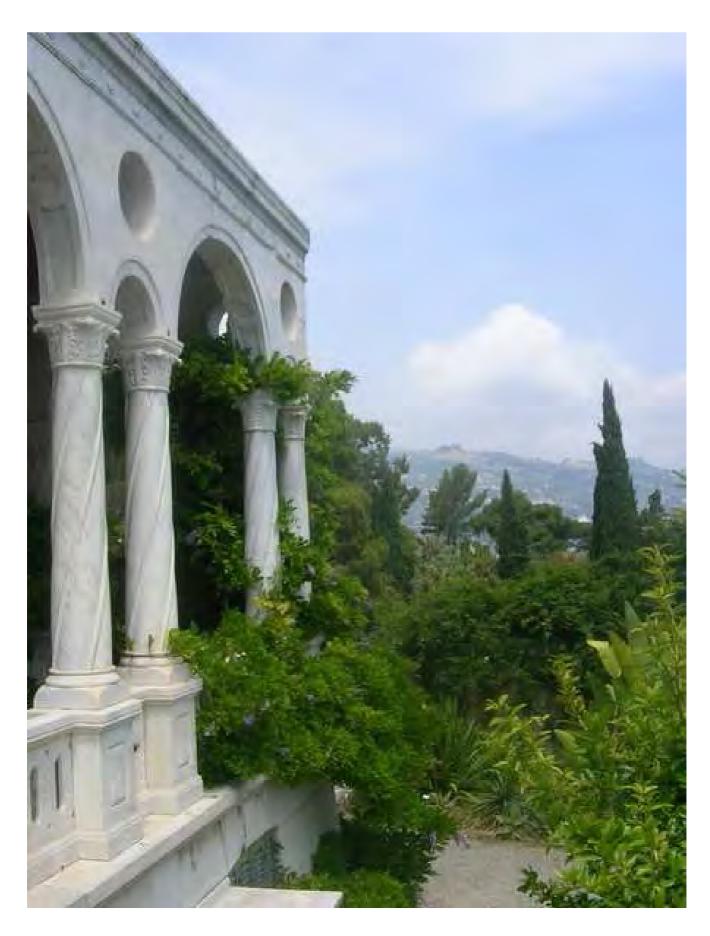
Observatoire de la Côte d'Azur

## Thursday Afternoon - July 15

## Chairperson: Kim Sang Pyo

14:30	Della Valle Massimo <i>(20 minutes)</i> and Izzo Luca <i>(10 minutes)</i> Wild and Weird Supernovae
15:00	Bernardini Maria Grazia (20 minutes)  Gamma-Ray Burst light curves and spectra within the Fireshell model Patricelli Barbara (10 minutes)  High energetic GRBs and their spectral properties within the fireshell model
15:30	Pacheco Josè (20 minutes) and Kanaan Chadia (10 minutes) The energy distribution of gamma-ray burst revisited
16:00	Coffee Break
16:20	Bianco Carlo Luciano <i>(20 minutes)</i> The fireshell equations of motion and the P-GRB observational properties Caito Letizia (10 minutes) The class of disguised short bursts: some examples
16:50	Arkhangelskaja Irene (30 minutes) The characteristics of GRB with high energy component in their spectra
17:20	Aliev Alikram (30 minutes)  Observing Black Holes: Quasi-Periodic Oscillations
17:50	Lee Bumhoon (30 minutes) Vacuum Bubbles and Gravity Effects
	Liu Wenbiao (20 minutes)  Tortoise coordinate transformation on apparent horizon of a

dynamical black hole



Villa Hanbury

## Friday Morning - July 16

## Scientific Space Missions and

# International Cooperations (Brazilian-Chinese-French-Italian)

Chairperson: Chen Xuelei

8:30	Piran Tsvi (30 minutes)
9:00	Braga Joao <i>(30 minutes)</i> MIRAX: a Brazilian-Italian X-Ray Astronomy Mission for GRBs and X-Ray Transients
9:30	Feroci Marco <i>(30 minutes)</i> The Italian scientific payload onboard MIRAX
10:00	Arnaud Jean (20 minutes)  Overview on Picard satellite mission  Sigismondi Costantino (10 minutes)  Methods to measure the solar diameter
10:30	Coffee Break
10:50	Mester John (20 minutes) and Ferroni Valerio(10 minutes) Space and superconducting techniques for General Relativity
11:20	Costa Enrico (30 minutes) Relativistic Astrophysics with AGILE
11:50	Arkhangelsky Igor (30 minutes)  The application of the BrilLanCe series scintillation detector in the spectrometer of neural particles in the satellite experiment ZINA-NT

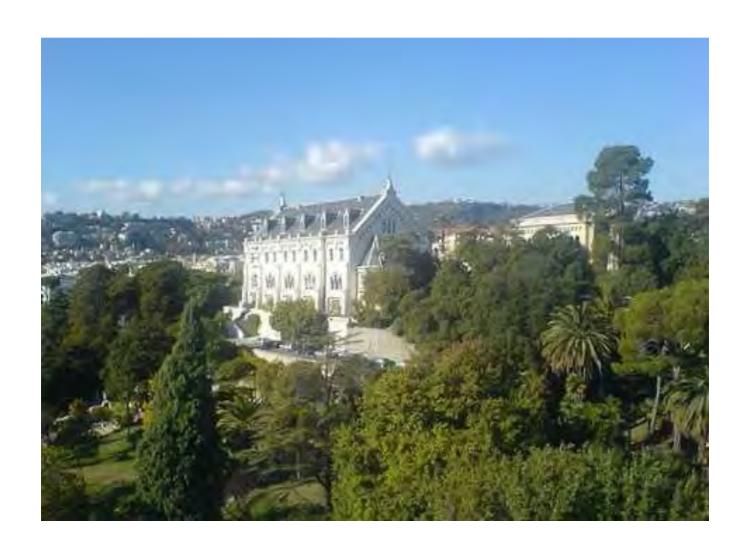


Villa Hanbury

# Friday Afternoon - July 16

# Chairperson: Hyung Won Lee

14:30	Wang Zhaozhong and Jin Yong <i>(30 minutes)</i> Nanotechnology in astrophysics
15:00	Lee Chul Hoon (30 minutes)  Nucleation and Dynamics of Vacuum Bubbles of a Self-Gravitating  Scalar Field
15:30	Lee Da-Shin <i>(30 minutes) Quantum Noise in the Mirror-Field System: A Field Theoretic Approach</i>
16:00	Coffee Break
16:20	Ng Kin Wang (30 minutes) Effects of black holes to inflation perturbation
16:50	Hu Zhan (30 minutes) Testing dark energy models and gravity theory with large imaging and spectroscopic surveys
17:20	Lee Wo-Lung (30 minutes) Primordial Magnetic Fields by Cosmic Inflation
17:50	Gao Sijie <i>(30 minutes)</i> Validity of thin shell models



University of Nice – Sophia Antipolis

### List of Participants

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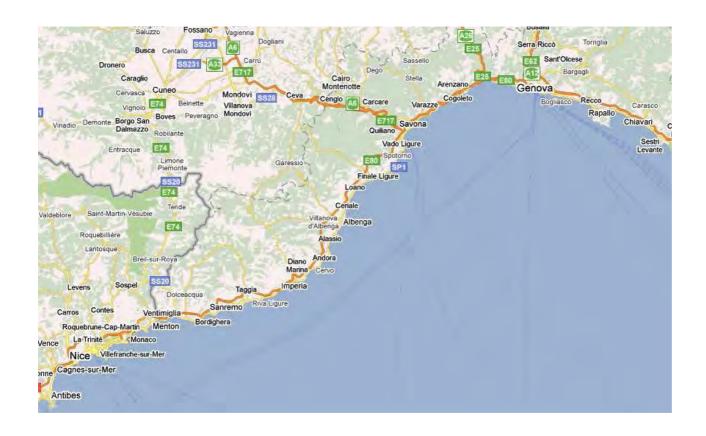
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Mo, Houjun University Of Massachusetts, Department Of Astronomy

Wang, Lifan Texas A&M University

Uzbekistan

Ahmedov, Bahodir National University Of Uzbekistan





## Sir Thomas Hanbury



Thomas Hanbury was born in Clapham and went out to Shanghai as a young man at the height of the Opium Wars to make his fortune. But unlike most of his compatriots Hanbury was a Quaker of high moral principle who thought the British treated the Chinese appalingly and wasn't afraid to stand up for what he thought was right. The Chinese came to adore him, since he did everything he could to help and support them. The British were less keen, but he was so successful (and stubborn) they had to listen to what he said. Having made his money, Hanbury then got married and retired to the Italian Riviera where he set about creating a fantastic garden called La Mortola, one of the finest in Europe.

## 据《上海地方志》记载,汉壁礼,

英国人。1853年来华,在上海与人合开宝威汉壁礼洋行,经营房地产致富。1865年当选为公共租界工部局董事,对公共事业十分关注。1871年捐资创办拥有]0间房屋的欧亚混血儿学校,教育欧亚旅沪混血儿,并成立一个委员会管理该学校。后又创办水手饭店。同年离沪到法国定居。1882年,提出以只收欧亚混血儿及以其名字命名为条件,将所办学校赠给工部局,工部局以还不具备接收条件为由予以回绝,但开始对该学校实行年度资助。1889年,将欧亚混血儿学校与新成立的儿童之家合并,成立汉璧礼蒙养学堂。1890年,公共租界工部局接收该学堂,改为汉璧礼公学,成为工部局第一所局立公学。1891年,又在蓬路为该校修建新校舍。而该校学生也从欧亚混血儿扩大至多个国籍的贫困儿童。1893年曾回上海,捐助5000两给慈善机关,工部局因此以其名字命名了界内一条马路。



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• Cui Xianggun • Dai Zigao • Feng Long Long

• Gao Yi-Hong • He Ping • Jing Yipeng • Li Miao

• Li Tipei • Li Xiang-Dong • Lin Douglas • Lu Ju-Fu

• Lu Tan • Mao Shude • Mo Houiun • Qu Qinvue

Wang Bin • Wang Jinxiu • Wang Lifan

• Wang Tinggui • Wang Xiang-Yu • Wang Zenru

• Wu Xiang Ping • Wu Yue-Liang • Xing Zhizhong

• Yan Jun • Yuan Feng • Zhang Jialu • Zhang Xinmin

• Zhang Yang • Zhao Gang Co-Chair

 Zhou Youvuan
 Zhu Zonghong CHINA (Hualiang) Lee Dashin

CHINA (Hsinchu) Chang Hsiang-Kuang CHINA (Taipei) Chen Pisin • Lee Wolung

Na Kin-Wana

**CROATIA** Slaus Ivo

ESTONIA Einasto Jaan • Gert Hutsi

FRANCE Boer Michel . Chardonnet Pascal

• Coullet Pierre • Damour Thibault • Mignard François Puget Jean-Loup • Vakili Farrokh

**GERMANY** Kleinert Hagen • Kramer Michael

• Nicolai Hermann • Trümper Joaquim INDIA Chakrabarti Sandip K.

ISRAEL Piran Tsvi • Waxman Eli

ITALY Amati Lorenzo • Battiston Roberto

 Belinski Vladimir • D'Ettorre Piazzoli Benedetto • De Bernardis Paolo • Della Valle Massimo

• Falciano Speranza • Feroci Marco

• Filippi Simonetta • Frontera Filippo • Moschella Ugo

Quevedo Fernando • Petronzio Roberto

Ravi Sheth
 Renieri Alberto

• Ruffini Remo Co-Chair • Ruocco Giancarlo

Vacchi Andrea
 Vereshchagin Gregory

Vissani Francesco • Xue Shesheng

JAPAN Nagataki Shigehiro • Sasaki Misao

Sato Humitaka
 Sato Katsuhiko

KAZAKHSTAN Abishev Medeu • Abdildin Meirkhan

**KYRGYZSTAN** Gurovich Victor

**MEXICO** Quevedo Hernando

**NETHERLAND** 'tHooft Gerard

**NEW ZEALAND** Kerr Roy • Wiltshire David

**NORTH KOREA** Kim Jik Su **PAKISTAN** Qadir Asghar

RUSSIA Aksenov Alexey • Bisnovatyi-Kogan Gennady

Chechetkin Valery Popov Vladimir

**SLOVENIA** Čadež Andrei

**SOUTH KOREA** Kim Sang Pyo • Kim Sung Won

• Lee Bum Hoon • Lee Chul Hoon • Lee Hyun Kyu

• Lee Hyung Won • Song Doo Jong

**SWEDEN** Rosquist Kiell

SWITZERLAND Ting Samuel C. C.

**UNITED KINGDOM** Willingale Richard

**USA** Arnett David • Ashtekar Abhay • Bloom Joshua

• Hu Bei-Lok Bernard • Jantzen Robert

Jones Christine
 Madey John

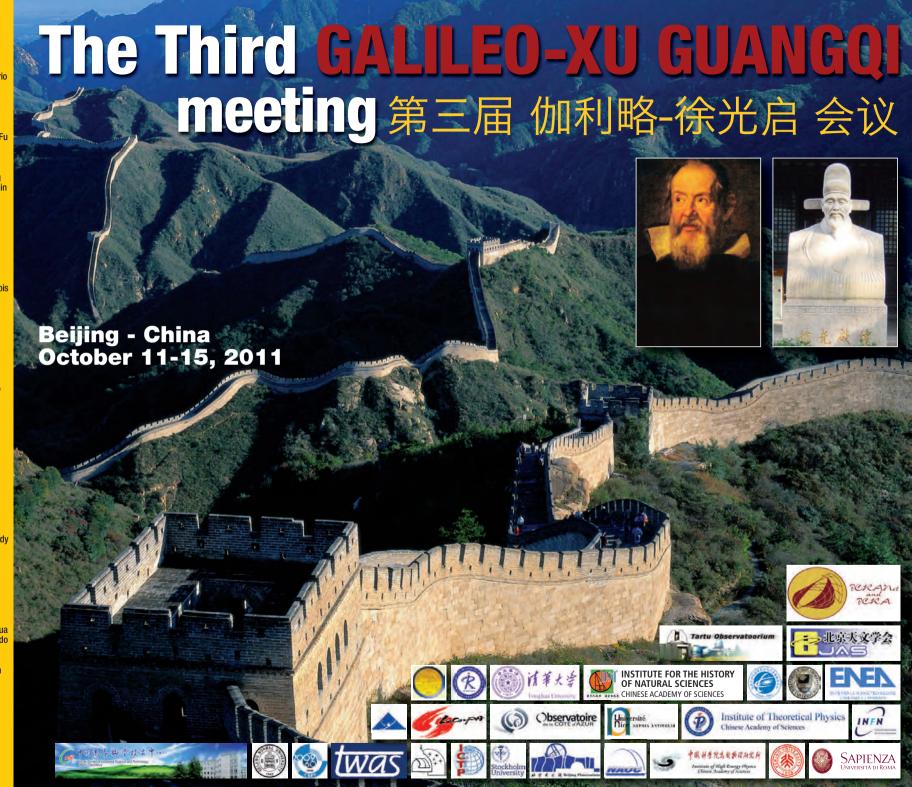
• Misner Charles • Mountain Matt • Whitcomb Stan

**UZBEKISTAN** Zalaletdinov Roustam **VATICAN STATE** Funes Jose Gabriel **VIETNAM** Hoang Ngoc Long

## LOCAL ORGANIZING COMMITTEE

Jinxin Hao Chair . Chengmin Zhang

- Hu Zhan Jin Zhu Shuangnan Zhang
- Xiangping Wu Xiaochun Sun Xuebing Wu • Xuelei Chen • Yuqing Lou • Zhu Zonghong



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

		Worling 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
Multifunctional Hall	Multifunctional Hall	Multifunctional Hall	Multifunctional Hall	Multifunctional Hall
Chairs: Frontera Filippo Li Tipei	Chairs: Blair David Zhu Zong Hong	Chairs: Boer Michel Zhang Bing	Chairs: Battiston Roberto Chen Pisin	Chairs: Chen Xuelei Della Valle Massimo
Opening Speech Ruffini Remo - Li Tipei Yan Jun - Zhao Gang lao Jinxin - Xue She-Sheng Group Photo				
9:10-9:40	9:00-9:30	8.30-9.00	9:00-9:30	9:00-9: 30
Frontera Filippo	Wen Linging	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	Battiston Roberto	Bernabei Rita
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
10:30-11.00	10:30-11.00	Coffee Break	10:40-11.10	10:30-11.00
Shuangnan Zhang	<u>Takaaki Kajita</u>	Ruffini Remo	Fiorini Ettore	11 371
		<u>Kumm Kemo</u>	FIOTHII ELLOTE	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	5 minutes discussion 10.35-11.05	5 minutes discussion 11.15-11:45	5 minutes discussion 11.05-11:35
		5 minutes discussion	5 minutes discussion	5 minutes discussion
11.05-11:35  Tavani Marco  5 minutes discussion	11.05-11:35 <b>Luo Jun</b> 5 minutes discussion	5 minutes discussion 10.35-11.05	5 minutes discussion 11.15-11:45 Wang Yifang 5 minutes discussion	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion
11.05-11:35 Tavani Marco  5 minutes discussion 11:40-12.10	11.05-11:35 <b>Luo Jun</b> 5 minutes discussion 11:40-12.10	5 minutes discussion 10.35-11.05 Dai Zigao  5 minutes discussion 11.05-11.35	5 minutes discussion 11.15-11:45 Wang Yifang 5 minutes discussion 11:50-12.20	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion 11:40-12.10
11.05-11:35 <u>Tavani Marco</u> 5 minutes discussion	11.05-11:35 <b>Luo Jun</b> 5 minutes discussion	5 minutes discussion 10.35-11.05 Dai Zigao  5 minutes discussion	5 minutes discussion 11.15-11:45 Wang Yifang 5 minutes discussion	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion 11:40-12.10 De Bernardis Paolo
11.05-11:35 Tavani Marco  5 minutes discussion 11:40-12.10	11.05-11:35 <b>Luo Jun</b> 5 minutes discussion 11:40-12.10	5 minutes discussion 10.35-11.05 Dai Zigao  5 minutes discussion 11.05-11.35	5 minutes discussion 11.15-11:45 Wang Yifang 5 minutes discussion 11:50-12.20	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion 11:40-12.10
11.05-11:35 Tavani Marco  5 minutes discussion 11:40-12.10 Sinnis Gus	11.05-11:35  Luo Jun  5 minutes discussion 11:40-12.10  Everitt Francis	5 minutes discussion 10.35-11.05 Dai Zigao  5 minutes discussion 11.05-11.35 Rueda Jorge	5 minutes discussion 11.15-11:45 Wang Yifang  5 minutes discussion 11:50-12.20 Westerhoff Stefan	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion 11:40-12.10 De Bernardis Paolo (skype connection)
11.05-11:35  Tavani Marco  5 minutes discussion 11:40-12.10  Sinnis Gus	11.05-11:35  Luo Jun  5 minutes discussion 11:40-12.10  Everitt Francis	5 minutes discussion 10.35-11.05 Dai Zigao  5 minutes discussion 11.05-11.35 Rueda Jorge	5 minutes discussion 11.15-11:45 Wang Yifang  5 minutes discussion 11:50-12.20 Westerhoff Stefan  5 minutes discussion	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion 11:40-12.10 De Bernardis Paolo (skype connection)
11.05-11:35 Tavani Marco  5 minutes discussion 11:40-12.10 Sinnis Gus	11.05-11:35  Luo Jun  5 minutes discussion 11:40-12.10  Everitt Francis	5 minutes discussion 10.35-11.05 Dai Zigao  5 minutes discussion 11.05-11.35 Rueda Jorge	5 minutes discussion 11.15-11:45 Wang Yifang  5 minutes discussion 11:50-12.20 Westerhoff Stefan  5 minutes discussion 12.25-12.50	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion 11:40-12.10 De Bernardis Paolo (skype connection)
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11.05-11:35  Tavani Marco  5 minutes discussion 11:40-12.10  Sinnis Gus	11.05-11:35 Luo Jun  5 minutes discussion 11:40-12.10 Everitt Francis  5 minutes discussion	5 minutes discussion 10.35-11.05 Dai Zigao  5 minutes discussion 11.05-11.35 Rueda Jorge  5 minutes discussion	5 minutes discussion 11.15-11:45 Wang Yifang  5 minutes discussion 11:50-12.20 Westerhoff Stefan  5 minutes discussion 12.25-12.50 Cao Zhen	5 minutes discussion 11.05-11:35 Casolino Marco  5 minutes discussion 11:40-12.10 De Bernardis Paolo (skype connection) 5 minutes discussion

## Tuesday 11<sup>th</sup> 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. HXMT 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 Acandemy 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 Chernkov 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 12<sup>th</sup> 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 13<sup>th</sup> 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 14<sup>th</sup> 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, atmosheric, reactor and accelerator neutrinos will be breafly reported with their consequences on the existence of massive neutrinos. The present results on the limit on neutrino mass based on cosmology and expecially 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 15<sup>th</sup> 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 have 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 × 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	y 11 <sup>th</sup> 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
Topic: Gravitational Wave Detectors	Topic: GRBs and S.N.	Topic: Early Universe		
Chairs: Chunnong Zhao Cao Junwei	Chair: Bianco Carlo Luciano	Chair: Belinski Vladimir	Chairs: Sigismondi Costantino Wang Jinxiu	Chair: Sun Xiaochun
14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.15
Stefan Gossler	Boer Michel invited	Gionti Gabriele invited	<u>Shaolan Bi</u>	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	<u>Jie Jiang</u>	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
Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min
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
<u>Vetrano Flavio</u>	Irene Arkhangelskaja	Scardigli Fabio	A. Raponi and C. Sigismondi	David Valls-Gabaud
			17.50-1818.20	
	Poster Session: He Haoning, Lin Ruoyu, Liu Tong		Jin, Chunlan	16.50-17.05
	Shao Lang, Weng Dehua, Xue, Li, Yiqing Lin, Zhao, Xiaohong		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 Xuebiing**: 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 <sup>th</sup> Oc	tober 2011	
X and Gamma Ray Astrophysics	Gravitational waves and precision	General Relativity,	General Relativity, GRBs,
	tests of general relativity	GRBs, neutron star and	neutron star and supernovae
		supernovae	
Room A208	Room A308	Room A408	Room A508
Topic:	Topic:	Topic:	Topic:
Theory and Modeling of X-/gamma-	Gravitational Wave Theory and Data	Black Holes, Neutron Stars and	Relativistic MHD Flows and
ray emission from BHs and NSs	Analysis	White Dwarfs	Electron-Positron Plasma
Chair:	Chair:	Chair:	Chairs:
Feng Yuan	Linging Wen	Rueda Jorge	Lou Yuqing
g .		Ğ	, ,
14.00-14.30	14.00-14.30	14.00-14.30	14.00-14.30
<u>Hua Feng</u>	Maurice van Putten	Renxin Xu	Lou Yuqing
invited	invited	invited	invited
14.30-15.00	14.30-15.00	14.30-15.00	14.30-15.00
<u>Xiangdong Li</u>	Chris Belczynski	Han, JinLin	Xue She-Sheng
invited	invited		invited
15.00-15.30	15.00-15.30	15.00-15.30	15.00-15.30
<u>Wenfei Yu</u>	Nickolas Fotopoulos	<u>Ali Taani</u>	Bianco Carlo Luciano
invited	invited	invited	
Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min
15.50-16.20	15.50-16.20	15.50-16.20	15.50-16.20
Feng Yuan	Sergio Frasca	Zhang, Shuang-Nan	Izzo Luca
invited	invited		
16.20-16.50	16.20-16.40	16.20-16.35	16.20-16.50
Andrzej Zdziarski	<u>Cao Junwei</u>	Zhao Huihua	Muccino Marco
invited	invited		
16.50-10.05	16.40-17.00	16.35-16.50	16.50-17.20
<u>Ma Renyi</u>	Lindy Blackburn	<u>Zhou, Xia</u>	Alberto Benedetti
	invited		
17.05-17.20	17.00-17.20	Poster Session:	17.20-17.50
<u>Qiao Guojun</u>	Drew Keppel	Meirkhan Abdildin	Wang, Li-Le
	invited	Jing Wang	
	17.20-17.40	Long Jiang Atfah Mussa	Round Table Discussions
	Zhihui Du	U.V. Seshavatharam	on GRBs
	invited 17.40-18.00	O.V. Oodhavaanaran	
	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 Polytropic Gas Envelopes

	Friday	y 14 <sup>th</sup> 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
loannis 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
	14.45-45-15.00			
	Han Jinlin			
15.00-15.30	15.00-15.15	14.40-15.10	15.00-15.30	15.00-15.30
<u>Zhang Jin</u>	Tian Wenwu	Kuantay Boshkayev	Shoushang Zhang	Zhang Yang
invited	15.15-15.30	invited	invited	invited
	Wang Na & Yuan Jianping			
Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min
15.50-16.05	15.50-16.05	15.50-16.20	15.50-16.15	15.50-16.20
Wang Wei	<u>Luca Naso</u>	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	<u>Ghulam Abbas</u>	<b>Denis Bastieri</b>	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:	17.55-18.20	
	Wang Wei	Nurzada Beissen Medeu Abishev Sheyse M. de Carvalho	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 Pulsares 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

	Saturda	ay 15 <sup>th</sup> 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
Enrico Virgilli invited	<u>Tartaglia Angelo</u> invited	Siutso Ivan invited	Scopel Stefano 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	<b>Qian Yue</b> invited	Xuelei 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
Webster Cash invited	Peng Hui	Bruce Gendre invited	<u>Gao Fei</u>	Ma Renyi
Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min	Coffee Break 20 min
15.50-16.20	15.50-16.05	15.50-16.20	15.50-16.10	15.50-16.20
Hiroshi Tsunemi invited	Ming-Sheng Zhan and Jin Wang	Zhuo Li invited	Yang Changgen	Wang Tao
16.20-16.35		16.20-16.50	16.10-16.30	16.20-16.50
Herman Marshall invited		Jingsong Deng invited	Ma Xinhua	Keqiang Tang
16.35-16.50		16.50-17.20	16.30-16.50	
Yongwei Dong		Neda Bostani	M. Martinez	
16.50-17.05		17.20-17.50		
Bobing Wu		Gao Yang		
		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 ~2

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

## **GX3 List of participants**

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Participant	Institution	Country
Blair, David	The Univeristy of Western Australia - School of Physics, M013	Australia
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Ma, Renyi MA, Xinhua Jaso, Luca Yan, Yuanyue Yan, Yuanyue Yan, Chong Jian, Lei Jiao, Guojun Ju, Jinlu Hen, Jun Hao, Lang Herom, Richard Hun, Mouyuan Hun, Xiaochun Yan, Kiaochun Yang, Fayin Yang, Fayin Yang, Hai-Bo Vang, Jing Vang, Li-Le Vanhua	Institute of theoretical physics and astrophysics, Xiamen University IHEP, CAS NAOC Xinjiang Observatory,CAS Xiamen University National Astronomical Observatories, CAS Dept. of Astronomy, School of Physics, Peking University IHEP Hebei University of Technology Hebei Normal University National Astronomical Observatories of the Chinese Academy of Sciences Xiamen University Institute for the History of Natural Sciences, Chinese Academy of Sciences National Astronomical Observatories, Institute of Geology and Geophysics, Chinese Academy of Sciences IHEP, NAOC, CNRS, Observatorie de Paris NJU Beijing Normal University Wuhan Institute of Physics and Mathematics, Chinese Academy of Sciences National Astronomical Observatories, Chinese Academy of Sciences National Astronomical Observatories, Chinese Academy of Sciences National Astronomical Observatories, Chinese Academy of Sciences Department of Physics and Tsinghua Center for Astrophysics (THCA), Tsinghua University	China (Mainland)
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	,	
Zheng, Zheng	University of Utah	USA





Prof. Guojun Qiao and prof. Remo Ruffini identified themselve from the photo taken more than thirty years ago, the first trip of prof. Ruffini to China. Prof. Qiao is now the head of Astronomy department, Peking University.



Matteo Ricci's tomb