Texas 2012

26th Texas Symposium on Relativistic Astrophysics
São Paulo, 15 a 20 de dezembro de 2012

O 26th Texas Symposium on Relativistic Astrophysics será realizado na cidade de São Paulo, SP, Brasil, de 15 a 20 de dezembro de 2012, e tem como anfitrião o Instituto Nacional de Pesquisas Espaciais (INPE, http://www.inpe.br).

O simpósio será realizado no Hotel Bourbon Convention Ibirapuera (http://www.bourbon.com.br).

Assim como em edições prévias, o Texas Symposium 2012 cobrirá assuntos relacionados à Cosmologia, Gravitação, Física de Astro-partículas, e áreas correlatas à Astrofísica Realtivística, dando ênfase aos recentes desenvolvimentos na área.

Devido à proximidade do Natal, adiantamos as atividades do simpósio em um dia. Então, ele terá início no Domingo (16 de dezembro) e terminará na Quinta-feira (20 de dezembro) no meio da tarde, permitindo que os participantes viajem ainda naquela noite.

Haverá um coquetel de recepção na noite de Sábado (15 de dezembro). Portanto, se você chegar em São Paulo no dia 15 de dezembro no período diurno, e deixá-lo no dia 20 de dezembro à noite, não perderá nenhum evento.

Siga nossa página no Facebook.

Evento Satélite: Compact Stars in the QCD Diagram III

O terceiro "Compact Stars in the QCD Phase Diagram" será realizado na cidade do Guarujá, SP, Brasil, de 12 a 15 de dezembro de 2012.

O evento cobrirá desenvolvimentos recentes no estudo de Matéria Escura em Densidades Supra-Nucleares. Os tópicos principais são:
- De Estrelas de Neutrons a Estrelas de Quarks
- Matéria de Quarks
- Estrelas de Quarks
- Diagrama de Fase QCD

Organização & Contatos

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Contato:
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Localização & Transporte

O Texas 2012 será realizado no Hotel Bourbon Convention Ibirapuera

Avenida Ibirapuera, 2927, São Paulo - SP, Brasil
Tel: (11) 21612200
Fax: (11) 21612201
Chamada Gratuita: 0800 770 2201

Você pode chegar ao Hotel do Aeroporto Internacional de Guarulhos (GRU):

Primeiro, vá até o Aeroporto de Congonhas utilizando ônibus (o Airport Bus Service custa R$35,00 , clique aqui para informações sobre os horários Guarulhos/Congonhas) e, então, pegue um táxi do Aeroporto de Congonhas até o Hotel (a taxa deve ser em torno de R$20,00 pelos 4km de trajeto). Táxis do Aeroporto Internacional de Guarulhos diretamente até o Hotel custará cerca de R$130,00.

Acomodações

Serão oferecidas taxas especiais para os participantes para o período de 15 a 20 de dezembro de 2012 pelo Hotel Bourbon Convention Ibirapuera. Para reservas, siga as instruções descritas em Reservas.

Location
Avenida Ibirapuera, 2927, São Paulo - SP, Brazil
Tel: (11) 21612200
Fax: (55) 11 21612201

Taxas
Superior Twin - Single ou Double: R$ 302,00 + 5% + R$ 2,20 taxa de turismo
Café da manhã e internet inclusos

Reservas
E-mail para grupos.conv@bourbon.com.br, com CC para texas2012sp@gmail.com
Reservation code: TEXAS2012SP

Hotéis Alternativos
Taxas especiais em outros hotéis podem ser encontradas na agência Levita Tour.

Outra sugestão de hotel é o Ibis Sao Paulo Congonhas.

Atrações

City Tour

Levitur oferece tours especiais para os participantes do 26th Texas Symposium on Relativistic Astrophysics.

Turismo

Para conhecer um pouco sobre a cidade de São Paulo dê uma olhada nos links abaixo:

http://www.visitesaopaulo.com
http://www.cidadedesaopaulo.com/sp/
http://www.youtube.com/watch?v=r0Mq6eggFNE
http://pt.wikipedia.org/wiki/Sao_Paulo

Prazos e Taxas

- Encerramento da Submissão de Resumos: 12 de novembro de 2012.

- Inscrição Regular: R$ 900 extendida até 12 de novembro de 2012;
- Inscrição Estudante: R$ 500 até 12 de novembro de 2012.

Se você deseja se inscrever, por favor clique em Registro.
Depois de cadastrado, você poderá entrar na área de acesso para:
- Revisar os dados de cadastro,
- Pagar a taxa inscrição.

Depois de efetivar sua inscrição (pagar), você poderá voltar para a área de acesso para:
- Imprimir o recibo,
- Submeter Resumos,
- Obter cartas convite.

Registro

Página para registrar-se. Links expirados

Submissão de Resumo(s)

A submissão de resumos está aberta nos seguintes tópicos:

Cosmologia
Astrofísica Galáctica e Intergaláctica
Objetos Compactos
Astrofísica de Altas Energias/Física de Astropartículas
Modelos e Teorias Alternativas
Novas Janelas/Ondas Gravitationais
Novos Projetos/Missiões
Efeitos Quânticos em Astrofísica Relativística
Instrumentação para Astrofísica Relativística
Se você já está registrado e quer submeter um resumo, clique aqui. (link expirado)

Se você não está registrado ainda e quer submeter um resumo,
por favor registre-se aqui. (link expirado)

Palestrantes Convidados

Palestrantes Confirmados:

Jaan Einasto - "Dark Matter and Alternative Models"

Tiziana Di Matteo - "Large-Scale Structure, Galaxy and SMBH Formation and Growth, and the Milky Way Case"

Jonathan McKinney - "Relativistic Jets and Cosmic Magnetic Fields"

Ludo van Waerbeke - "Gravitational Lensing"

Francis Halzen - "Neutrino Physics and Astrophysics"

Emanuele Berti - "Astrophysical tests of general relativity in the strong-field regime"

Marco Tavani - "Gamma ray Astronomy from GeV to TeV Energies"

Ehud Nakar - "Electromagnetic Signals that Accompany Neutron Stars Mergers, Supernova Shock Break Out and Low Luminosity GRBs"

Sandro Mereghetti - "Pulsars and Magnetars"

Carlos Lousto - "Binary Black Hole Mergers in Numerical General Relativistic Astrophysics"

Fiona Harrison - "Astrophysics with the First Hard X-ray Imaging Telescopes: NuSTAR and the Future ASTRO-H"

Karl-Heinz Kampert - "Ultra-High Energy Cosmic Rays: Theory, Results, and Prospects"

Reuven Opher - "Challenges of Relativistic Astrophysics"

Alberto Sesana - "Gravitational-Wave Detection using Laser Interferometer Systems and Pulsar Timing Arrays"

Patrick Brady - "Gravitational Wave Observatories: the science they are telling us already and the LOOCUP Project"

Vincent Fish - "New Frontiers in Relativistic Astrophysics: The Event Horizon Telescope and other Future Projects/Missions"

Suvi Gezari - "Tidal Disruption Events"

José Ademir Sales Lima - "The Accelerating Universe: Dark Energy and Alternative Models"

Adam Burrow - "Core-Collapse Supernovae"

John Carlstrom - "CMB"

Virginia Trimble - "The Ideas of Texas Past"

Roger Blandford - "Crab Pulsar/Nebula"

Keith Olive - "LHC Results and Their Impact to Cosmology"

Carlos Cunha - "Dark Energy Survey (DES)"

Organização & Contatos

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Stefan Wolfgang Schramm	**FIAS, Frankfurt University, Germany**
Suvi Gezari Stock	**University of Maryland**
Takeshi Chiba	**Nihon University**
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Tomonori Totani	**Kyoto University**
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Ulisses Barres De Almeida	**Max-Planck-Institut fur Physik**
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Wlodek Bednarek	**University of Lodz**
Zhuo Li	**Peking University**

Programa

As sessões Plenárias serão realizadas pela manhã, enquanto as sessões paralelas ocorrerão no período da tarde. Posteres serão anunciados nas sessões paralelas e serão colocados na área de coffee break para melhor visibilidade. Todas as apresentações serão em inglês, com exceção de três palestras públicas em português.

Agenda

Time/Date	Sábado 15/12	Domingo 16/12	Segunda-feira 17/12	Terça-feira 18/12	Quarta-feira 19/12	Quinta-feira 20/12
08h30-09h00		Cerimônia de Abertura				
09h00-10h20		Sessões Plenárias	Sessões Plenárias	Sessões Plenárias	Sessões Plenárias	Sessões Plenárias
10h30-11h00		Coffee Break				
11h00-12h30		Sessões Plenárias	Sessões Plenárias	Sessões Plenárias	Sessões Plenárias	Sessões Plenárias
12h30-14h00		Almoço				
14h00-15h30	Registro	Sessões Paralelas (COS-I/COB-I)	Sessões Paralelas (HEA-I/GIA)	Tarde Livre	Sessões Paralelas (HEA-III/COB-IV)	Sessões Paralelas (HEA-V/NGW-II)
15h30-16h10	Registro	Coffee Break				
16h10-17h40	Registro	Sessões Paralelas (COS-II/COB-II)	Sessões Paralelas (HEA-II/COB-III)	Tarde Livre	Sessões Paralelas (HEA-IV/NGW-I)	
18h00-19h00	Cocktail/Recepção					
20h00		Palestra Pública	Palestra Pública	Palestra Pública	Banquete	

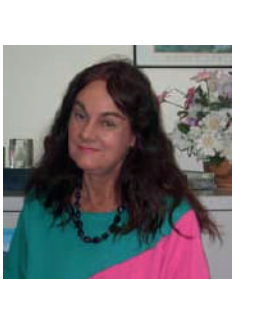
Sessões Plenárias

Este programa é ainda temporário, porém os palestras já estão confirmados. O horário de algumas palestras pode sofrer pequenas alterações. Por favor, confira periodicamente esta página para atualizações.

Domingo (16 de dezembro)

Sessão Plenária I

09h00 - What ever became of ... ? Ideas (hypotheses, theories, models, scenarios...) from other TEXAS Symposia »



Palestrante: Virginia Trimble - University of California, Irvine

Abstract: At the Vancouver Texas I reviewed the history of the Symposia themselves. The printed version appears with the proceedings from Heidelberg.
This time, I would like to take a look at some of the ideas (hypotheses, theories, models, scenarios...) once though viable but no longer in the universe or discourse, and probably not in the real universe either. Examples include quasars as spinars or Christmas trees, the Mixmaster Universe, dominant baryonic dark matter, and pulsar glitches as starquakes.

09h30 - New Measurements of the Cosmic Microwave Background »

Palestrante: John Carlstrom - Kavli Institute for Cosmological Physics, The University of Chicago

Abstract: Over the last decades measurements of the Cosmic Microwave Background (CMB) on large angular scales have revealed a great deal about the fundamental workings of the universe, leading to a standard cosmological model. Testing this model, refining its parameters and, most importantly, investigating the new physics it requires, such as Inflation, Dark Matter and Dark Energy is now being pursued with increasingly sensitive measurements of the CMB polarization and its fine angular scale anisotropy. Recently the characterization of the intrinsic CMB anisotropy through the damping scale has led to increased precision on inflationary parameters and new constraints on the number of relativistic species, as well as improvements in the standard cosmological parameters. Using large CMB telescopes, such as the South Pole Telescope (SPT) and the Atacama Cosmology Telescope (ACT), the fine angular scale CMB measurements are now probing the emergence and evolution of structure in the universe through the subtle, small-angular scale distortions they impart on the background, such as gravitational lensing from the mass in the universe and the scattering from ionized gas (the Sunyaev-Zel'dovich effects). These measurements provide further tests of the cosmological model and unique constraints on the dark energy equation of state and the reionization of the universe. This talk will review the status of the field, including the newest results from the South Pole Telescope, and expectations for the future.

09h55 - LHC Results and Their Impact to Cosmology »

Palestrante: Keith Olive - University of Minnesota, Minneapolis

Abstract: The last two years has seen an immense amount of activity and results from the Large Hadron Collider (LHC). Most notable, is the discovery of a new particle, which may very well be the long sought Higgs boson associated with electroweak symmetry breaking. There have also been many (up to now) unsuccessful searches for new particles associated with supersymmetry. One of the most attractive candidates for dark matter is the lightest supersymmetric particle (LSP). The recent results from the LHC have had a dramatic impact on our expectations for the properties of the LSP. These results can be used to revise expectations for both direct and indirect detection of dark matter.

Sessão Plenária II

11h00 - The Accelerating Universe: Dark Energy and Alternative Models »

Palestrante: José Ademir Sales Lima - IAG/USP

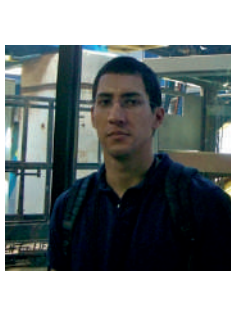
Abstract: The discovery of the accelerated expansion of the Universe was one of the biggest surprises in modern cosmology. Almost 15 years later, we are still searching for a satisfactory explanation of this phenomenon. I will summarize some of the main ideas proposed so far, ranging from new particles to modifications of General Relativity. A variety of cosmological observations have narrowed down the space of viable theories, but there are many questions left to answer. I will conclude by discussing the prospects for future experiments to identify the causes of cosmic acceleration.

11h35 - Dark Matter »

Palestrante: Jaan Einasto - Tartu Observatory, Estonia

Abstract: I give a review of the development of the dark matter concept, its relation to the structure of galaxies and the cosmic web. I discuss the possible nature of dark matter and its role in the evolution of the Universe. I discuss shortly alternative hypotheses to the dark matter concept. I finish with a short description to contemporary searches for dark matter particles.

12h10 - Dark Energy Survey (DES) »



Palestrante: Carlos Cunha - Stanford University/KIPAC

Abstract: The Dark Energy Survey (DES) is designed to probe the origin of the accelerating universe and help uncover the nature of dark energy by measuring the history of cosmic expansion with high precision. The project is using a 570 megapixel camera, DECam, mounted on the 4-m Blanco Telescope at Cerro Tololo, Chile, to observe around 300 million galaxies over 5000 sq. degrees of the southern sky. The instrument achieved first light in early September and progress has been rapid. I will describe the science goals of the survey, instrument operation, and present the first data collected.

Palestra Pública I

20h00 - Palestra Pública - Universo»

Palestrante: Martin Makler - CBPF/MCTI

Abstract: Durante o século XX foi desenvolvida - pela primeira vez na história da humanidade - uma descrição científica do nosso Universo. Isso foi possível, por um lado, graças a uma quantidade gigantesca informação trazida por telescópios no solo e sondas espaciais especialmente dedicados à cosmologia – a ciência que estuda a origem, estrutura e evolução do Universo. Por outro lado, os modelos do Universo são baseados em uma síntese de quase toda a física moderna, indo da Teoria da Relatividade Geral de Einstein até a física das partículas elementares. Apesar do sucesso do modelo cosmológico atual, ainda há questões fundamentais em aberto, como por exemplo a composição de cerca de 95% da matéria no Universo ou a própria validade da teoria da gravitação. Nesta apresentação faremos um apanhado das descobertas em cosmologia, de algumas questões em aberto e da pesquisa atual motivada por elas, em teoria e observação, com destaque para a participação brasileira nesse processo.

Segunda-feira (17 de dezembro)

Sessão Plenária III

09h00 - Large-Scale Structure, Galaxy and SMBH Formation and Growth, and the Milky Way Case »

Palestrante: Tiziana Di Matteo - Carnegie Mellon University

Abstract: At present, our understanding of galaxy formation remains sketchy even though a basic paradigm for it exists - the theory of hierarchical galaxy formation within the LambdaCDM cosmology. The fundamental challenge is that galaxy formation involves a complicated blend of different physics that is non-linearly coupled on a wide range of scales, leading to extremely complex dynamics. For this reason large simulations have become the primary avenue for theoretical research in galaxy formation. I will discuss state-of-the-art cosmological hydrodynamical simulations of galaxy formation with unprecedented combination of resolution and physical complexity, including radiative cooling, star formation and black hole growth. The prospect that we are reaching a position to use cosmology, i.e. the science of the Gigaparsec horizon, in our simulations to make predictions for the mass distribution in the inner regions of galaxies is extraordinary.

09h45 - Tidal Disruption Events »

Palestrante: Suvi Gezari - University of Maryland

Abstract:The majority of supermassive black holes in the Universe lie dormant and starved of fuel. These hidden beasts can be temporarily illuminated when an unlucky star passes close enough to be tidally disrupted and consumed by the black hole. Theorists first proposed in 1975 that tidal disruption events should be an inevitable consequence of supermassive black holes in galaxy nuclei, and later argued that the resulting flare of radiation from the accretion of the stellar debris could be a unique signpost for the presence of a dormant black hole in the center of a normal galaxy. It was not until over two decades later that the first convincing tidal disruption event candidates emerged in the X-rays by the ROSAT All-Sky Survey. Since then over a dozen total candidates have now emerged from searches across the electromagnetic spectrum, including the X-rays, the ultraviolet, and the optical. In the last couple years, we have also witnessed a paradigm shift with the discovery of relativistic, beamed emission associated with tidal disruption events. I will review the census of observational candidates to date, and discuss the exciting prospects for using large samples of tidal disruption events discovered with the next-generation of ground-based and space-based synoptic surveys to probe accretion disk and/or jet formation and black hole demographics.

11h00 - The feeding of supermassive black holes »

Palestrante: Thaisa Storchi-Bergmann - UFRG, Porto Alegre

Abstract: It is now believed that all galaxies which have a bulge also harbor a supermassive black hole (SMBH) at the nucleus. Besides capturing stars which come closer than its tidal radius, the SMBH can also "be awaken" by large gas supplies which reach the nucleus probably as a result of interaction of the host galaxy with another nearby galaxy or capture of small satellites. This gas supply then triggers episodes of nuclear activity, giving origin to Active Galactic Nuclei (AGN), characterized by phenomena such as large luminosities of non-stellar origin and relativistic jets. I discuss observational signatures of this scenario, tracing the feeding of AGN: (1) at unresolved scales, in the form of double-peaked emission lines originating in accretion disks of few thousand of gravitational radia; (2) at scales of tens to hundred of parsecs (resolved in nearby galaxies), in the form of inflows along nuclear spiral arms, which may be the long sought mechanism to bring gas from kiloparsec scales down to the nucleus to feed the SMBH.

11h30 - Simulations of Accreting Black Holes on Horizon Scales »

Palestrante: Jonathan McKinney - Stanford/KIPAC

Abstract: General relativistic magnetohydrodynamical simulations have exposed the role of magnetic fields in controlling accretion and jet production from rotating black holes. In this talk I discuss how a magnetic field can build-up to a natural saturation point by which the standard magneto-turbulent disk theories (based upon the magneto-rotational instability) are no longer applicable. Such naturally saturated magnetic fields lead to persistent jets with efficiencies of order 100% and to high-frequency quasi-periodic oscillations. In the limit of no strong ambient magnetic field, the field near the hole can spontaneously organize into a dipolar field and lead to transient jets.

11h55 - Gravitational Lensing: The beginning of a new era for the study of the dark Universe? »

Palestrante: Ludovic van Waerbeke - University of British Columbia

Abstract: For the past ten years, independent observations have considerably strengthen the idea that dark matter and dark energy dominate the energy budget of our Universe. One of the cosmology probes, which contributed to this progress, was gravitational lensing. In the first half of this talk I will review the most recent advances in this area, and during the second half I will discuss what is to be expected from the coming surveys of the next decade. Future surveys will be pushing the field in new territory where we expect numerous discoveries to be made, but where the complexity of the data analysis challenge is also considerable. No doubt that a new era is opening up!

Palestra Pública II
20h00 - Palestra Pública - Buracos Negros: Rompendo os Limites da Ficção »

Palestrante: George Matsas - IFT/UNESP

Abstract: Buracos negros surgiram como uma predição teórica da teoria da relatividade geral de Albert Einstein. Ninguém os levou realmente a sério por décadas e tudo indica que mesmo Einstein morreu acreditando que buracos negros não existiam na natureza. Hoje são poucos (se alguém) os que disputam a existência destes objetos que transcendem a própria ficção. Nesta palestra discutiremos de forma simples e ilustrativa o que são buracos negros e seu papel no Universo que habitamos.

Terça-feira (18 de dezembro)
Sessão Plenária V

09h00 - Particle Astrophysics with High Energy Neutrinos »

Palestrante: Francis Halzen - University of Wisconsin, Madison / IceCube

Abstract: Construction and commissioning of the cubic-kilometer IceCube neutrino detector and its low energy extension DeepCore have been completed. The instrument detects neutrinos over a wide energy range: from 10 GeV atmospheric neutrinos to 1010 GeV cosmogenic neutrinos. We will discuss initial results based on a subsample of the more than 300,000 neutrino events recorded during construction. We will emphasize the observation of PeV-energy neutrinos, the first measurement of the high-energy atmospheric neutrino spectrum, the search for the still enigmatic sources of the Galactic and extragalactic cosmic rays and for the particle nature of dark matter.

09h35 - Ultra-High Energy Cosmic Rays: Theory, Results, and Prospects »

Palestrante: Karl-Heinz Kampert - University Münster

Abstract: The Pierre Auger and Telescope Array Observatories have provided a wealth of high quality and high statistics data on cosmic rays at the highest energies. A cut-off in the energy spectrum, as predicted by Greisen, Zatsepin and Kuzmin in 1966, and first hints of anisotropies in the arrival directions, most notably a directional correlation of the most energetic events with nearby AGN have been observed by the Auger Observatory. A key to learn about the origin of the particles is provided by measurements of their primary mass. Data from the Pierre Auger Observatory cannot be described by a proton dominated composition and indicate an increasing fraction of heavy primaries at the highest energies. This could most naturally be interpreted as a signature of a few nearby sources reaching their limiting energy according to E_max = Z*B*R. Data from the Telescope Array, on the other hand, are consistent with a proton dominated composition at all energies. We shall report about the current status of the measurements and their systematics, and their interpretation in terms of the origin of cosmic rays. We shall finish with an outlook discussing plans for upgrades of existing observatories and for constructing a next generation giant ground based observatory.

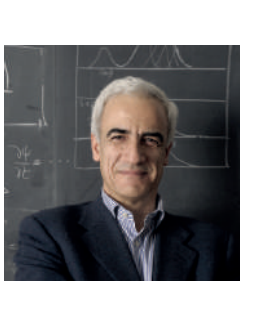
Palestrante: Elisabete de Gouveia Dal Pino - IAG/USP, Sao Paulo

Abstract: Gamma-ray astronomy has a huge potential in astrophysics, particle physics and cosmology. CTA is an international initiative to build the next generation ground-based gamma-ray observatory which will have a factor of 5-10 improvement in sensitivity in the 100 GeV-10 TeV range and an extension to energies well below 100 GeV and above 100 TeV. CTA will consist of two arrays (one in the North, another in the South) for full sky coverage and will be operated as open observatory. It will provide a deep insight into the non-thermal high-energy universe. In this talk we will briefly present the major design concepts of CTA as well as its vast science case.

Sessão Plenária VI
11h00 - Astrophysical tests of general relativity in the strong-field regime »

Palestrante: Emanuele Berti - University of Mississippi, Oxford

Abstract: General relativity (GR) is an integral ingredient of modern astronomy. We have gone a long way since the first Texas Symposium in 1963, when astronomers would ask relativists about the meaning of the Riemann tensor, and relativists would interrupt astronomers to be instructed about the magnitude of a star.
Einstein's theory is well tested in the weak-field regime, but there is only circumstantial experimental evidence that astrophysical black holes are described by the Kerr solution of the Einstein equations, and there are theoretical reasons to believe that the theory may require modifications at high energies. Astrophysical observations of compact objects (whether isolated or in binary systems) can constrain proposed extensions of Einstein's theory, and perhaps provide hints of high-energy modifications of the theory. I will review and compare some ideas to test GR and constrain its extensions by astrophysical observations in the electromagnetic spectrum and via future gravitational-wave observations.



Palestrante: Marco Tavani - Università "Tor Vergata" Rome

Abstract: Gamma-ray astrophysics from space has been recently boosted by the space missions AGILE and FERMI (operating in the energy range 100 MeV - 100 GeV) and by ground-based TeV observatories (HESS, MAGIC, VERITAS as well as MILAGRO and ARGO-YBJ). The combination of GeV and TeV data constitute a formidable combination of information on relativistic processes shaped by extreme gravity and hydrodynamical conditions. We will review the main results for both Galactic and extragalactic sources, and focus on the main sources for which a substantial advance in knowledge (not without surprises) has been obtained (pulsars, micro-quasars, Galactic transients, diffuse Galactic emission, and "bubbles", Supernova Remnants, blazars and other active galaxies, gamma-ray GRBs, dark matter limits). The surprising discovery of gamma-ray flares from the Crab Nebula will be presented together with the relevant new implications for particle acceleration models. We will also briefly discuss possible future developments.

12h10 - Core-Collapse Supernova Explosions: The Theoretical Challenge »

Palestrante: Adam Burrows - Princeton University

Abstract: Core-collapse supernovae have challenged theorists and computational science for half a century. Such explosions are the source of many of the heavy elements in the Universe and the birthplace of neutron stars and stellar-mass black holes. However, determining the mechanism of explosion remains the key goal of theory. Recently, using sophisticated numerical tools and platforms, theorists have been able to conduct multi-dimensional simulations with some physical fidelity that have provided insight into the phenomena that attend stellar death and explosion. The core of the emerging theoretical synthesis is the centrality of hydrodynamic instability and asphericity. In this talk, I review the state of the field and the contending explosion models. In the process, I will highlight the computational astrophysics that has been applied to date, and that may be necessary in the future to credibly unravel this mystery.

Palestra Pública III
20h00 - Palestra Pública - Astrofisica Relativistica: Supernovas, Estrelas de Neutrons e Buracos negros hoje. »

Palestrante: Jorge Horvath - IAG/USP

Abstract: O século 20 deu origem às duas teorias mais interessantes da Física, a Relatividade e Mecânica Quântica, mas também a toda a construção de um quadro geral do Cosmo que inclui a evolução das estrelas e assuntos conexos. Discutimos nesta palestra o fim da evolução estelar e os eventos do nascimento das estrelas de nêutrons e buracos negros. Mostraremos como houve uma simbiose entre as idéias revolucionarias da Física e os sistemas onde estas se realizam, particularmente nas supernovas e objetos compactos remanescentes que deram suporte a estas.

Quarta-feira (19 de dezembro)
Sessão Plenária VII
09h00 - The Incredible Crab »

Palestrante: Roger Blandford - Stanford University/SLAC

Abstract: The Crab Nebula continues to delight and surprise astronomers as it has for the past millennium. Recent developments include the realization that the total nebula flux is declining on a timescale of roughly thirty years, that pulses from the pulsar are seen at energies up to about 400 GeV and that the flux at energies between 0.1 and 1 GeV can vary in hours without apparently showing variation in other spectral bands. These observations suggest new emission paradigms, specifically that the pulsar acts as a current generator and radiates though inverse Compton scattering at the highest energies, that the nebula plasma is ultrarelativistic and that radiation reaction-limited synchrotron emission can occur. As has been true in the past, the Crab Nebula opens new portals to relativistic astrophysics.

09h30 - Electromagnetic Signals that Accompany Neutron Stars Mergers, Supernova Shock Break Out and Low Luminosity GRBs »

Palestrante: Ehud Nakar - Tel-Aviv University

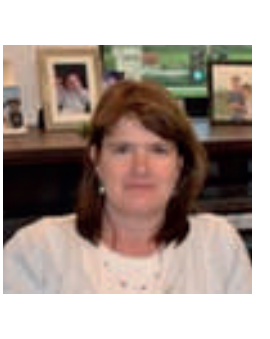
Abstract: I will discuss the electromagnetic (EM) signature of two astrophysical relativistic phenomena – the merger of two neutron stars and the breakout of a relativistic shock through the surface of an exploding star. The EM counterparts of a double neutron star merger are of special interest due to the merger's strong gravitational wave (GW) signal, whose detection is one of the main goals of the next generation ground based GW detectors. I will focus on the predicted EM emission from matter that is ejected dynamically during the first stages of the merger. This sub to mildly relativistic outflow is expected to shine on time scales of hours to days in IR-UV due to the radioactive decay of freshly synthesized r-process elements and on time scales of weeks to years in the radio due to the interaction with the circum-merger medium. Breakout of a relativistic shock takes place in any energetic explosion of envelope stripped or compact star, including type Ia and energetic Ib/c supernovae. I will show that such breakouts produce gamma and X-ray emission that holds a wealth of information on the progenitor and on the explosion itself. I will discuss the prospects to detect such breakouts and the possibility that low-luminosity gamma-ray bursts are in fact relativistic shock breakouts.

09h55 - Pulsars and Magnetars »

Palestrante: Sandro Mereghetti - IASF Milano

Abstract: The great diversity in observational properties of neutron stars as revealed by X-ray and radio observations in the past decade has been a significant surprise in the field. Although astronomy textbooks previously suggested that young neutron stars are all born like the Crab pulsar, today we know this is not true: from "Anomalous X-Ray Pulsars" to "Central Compact Objects," from "Soft Gamma Repeaters" to "Dim Isolated Neutron Stars," we now know neutron stars can take on a wide variety of properties. Today the leading hypothesis for the origin of this diversity lies in the magnetic field of the star. In this talk I will review the properties of the different types of young neutron stars identified today and discuss efforts and current thinking toward unifying them under a single physical theory.

11h00 - The first Focusing High-Energy X-ray Telescopes: Opening a New Window on the High Energy Universe »



Palestrante: Fiona Harrison - Caltech

Abstract: The Nuclear Spectroscopic Telescope Array (NuSTAR) mission, launched on June 13, 2012, is the first space-based focusing high-energy X-ray telescope. The ASTRO-H mission, to be launched in 2014, will carry a hard X-ray focusing capability to complement its high spectral resolution calorimeter. NuSTAR and Astro-H HXI operate in the band from 4 -- 79~keV, extending the sensitivity of focusing far beyond the ~10 keV high-energy cutoff achieved by any previous X-ray telescope. These telescopes can address a range of scientific topics ranging from probing obscured AGN activity in the nearby (z<2) universe by surveying selected regions of the sky, studying the population of hard X-ray emitting compact objects in the Galaxy by mapping the central regions of the Milky Way, studying the non-thermal radiation in young supernova remnants both in hard X-ray continuum and emission from the radioactive element 44Ti, studying accretion phenomena in Ultraluminous X-ray sources, Active Galactic Nuclei, and Galactic Binaries. This talk will discuss the scientific capabilities of these missions, and present first results from the NuSTAR science program.

11h35 - Binary Black Hole Mergers in Numerical General Relativistic Astrophysics»

Palestrante: Carlos Lousto - University of Bern

Abstract: The field of numerical relativity experienced a phenomenal growth during the past few years. Among the most remarkable discoveries is the one that merging pair of spinning black holes can recoil thousands of km/s, generating very strong emission of gravitational waves in the last few orbits of the collision. The detection these gravitational waves will constitute a major breakthrough in fundamental physics, opening a new window on the universe. For supermassive black-holes in galactic nuclei, these merger events are also expected to be accompanied by observable electromagnetic signals. In this talk, I will review the latest achievements and highlight the field's next challenges with emphasis on applications to both gravitational wave and electromagnetic astronomy and relativistic astrophysics. I will also present calculations of magnetohydrodynamics accretion disks around inspiralling supermassive black-holes in galactic nuclei suggesting that these systems could be very luminous at the end stage of their evolution.

Quinta-feira (20 de dezembro)

Sessão Plenária IX
09h00 - Gravitational-Wave Detection using Laser Interferometer Systems and Pulsar Timing Arrays »

Palestrante: Alberto Sesana - Albert Einstein Institute

Abstract: In the coming years the detection of gravitational waves (GW) will be a reality, opening a completely new window on the Universe. Ground based detectors like the Advanced LIGO will observe coalescing compact binaries out to hundreds of megaparsecs, revealing the hidden face of the local Universe. At lower frequencies, future space based interferometers (like LISA) and precise timing of millisecond pulsars (Pulsar Timing Arrays) will primary target inspiralling and coalescing massive black hole binaries throughout the Universe. I will briefly describe the principles of GW detection via laser interferometry and pulsar timing, the relevant astrophysical GW sources, and the multiple scientific payouts of gravitational wave detection. I will pay particular attention to the low frequency regime, discussing how future GW observation will shed light on the formation and evolution of massive black hole binaries along the cosmic history.

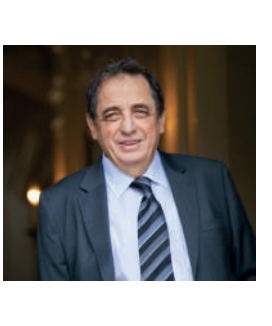
09h40 - Gravitational-wave Observatories: current results and future prospects »

Palestrante: Patrick Brady - University of Wisconsin, Milwaukee

Abstract: I will present the results of searches for gravitational waves in data taken by LIGO and Virgo with an emphasis on the astrophysical interpretation. Although no gravitational waves have been identified in the data, the results provide a glimpse into the possibilities that await with data from the next generation of detectors. I will also summarize the first tentative efforts to undertake joint gravitational and electromagnetic observing campaigns and the lessons learned from that exercise. Finally, I will discuss prospects for observations with advanced detectors.

Sessão Plenária X

11h00 - Challenges of Relativistic Astrophysics »



Palestrante: Reuven Opher - University of Sao Paulo

Abstract: I discuss some of the most outstanding challenges of relativistic astrophysics: the environment (e.g., gravitational field, magnetic field, plasma properties) near the horizons of single and merging Black Holes and the emitted relativistic jets and gravitational waves from compact binary coalescences; The equation-of state of Neutron Stars (NSs) and the emission from spinning magnetized NSs; A Primordial Inflation theory which predicts the amplitude of primordial density fluctuations, whose initial lengths are greater than the Planck length; and Modified Gravity that explains Dark Energy and/or Dark Matter at small and large scales. I discuss near-future possibilities for addressing these challenges.

11h35 - New Frontiers in Relativistic Astrophysics: The Event Horizon Telescope and other Future Projects/Missions »

Palestrante: Vincent Fish - MIT Haystack Observatory

Abstract: Multiple future projects and missions promise to open new windows on Relativistic Astrophysics. A range of innovative techniques will target physical processes from high energies to radio wavelengths, enabling new probes of environments where relativistic effects either dominate or can be clearly distinguished. An environment of particular interest is the Galactic Center, where it is now almost certain that a 4 million solar mass black hole exists. Because of its proximity to Earth, this object, known as Sagittarius A*, presents astronomers with the best opportunity in the Universe to spatially resolve and image a black hole Event Horizon. To do this requires using Very Long Baseline Interferometry (VLBI), the technique whereby radio telescopes around the world are linked together in a Global phased array. The Event Horizon Telescope (EHT) project extends VLBI to the shortest radio wavelengths, and preliminary EHT observations have already revealed structure in Sagittarius A* on ~4 Schwarzschild radius scales. This talk will discuss the EHT and several other new experimental directions.

Programa

As Sessões Paralelas serão divididas nos seguintes tópicos:

Cosmology
Galactic and Intergalactic Astrophysics
Compact Objects
High Energy Astrophysics/Astroparticle Physics
Alternative Models and Theories
New Windows/Gravitational Waves
New Projects/Missions
Quantum Effects in Relativistic Astrophysics
Instrumentation for Relativistic Astrophysics

Por questões organizacionais agrupamos os tópicos da seguinte forma:

COS - Cosmology/Alternative Models and Theories
COB - Compact Objects/Quantum Effects in Relativistic Astrophysics
GIA - Galactic and Intergalactic Astrophysics
HEA - High Energy Astrophysics/Astroparticle Physics/Instrumentation for Relativistic Astrophysics
NGW - New Windows/Gravitational Waves/New Projects/Missions

Domingo (16 de dezembro)

14h00-15h30		COS-I Nelson Pinto Neto		COB-I Cecilia Chirenti
	14h00	**Daisuke Nagai (2011 IUPAP winner of the YOUNG Scientist Prize in Astrophysics)** A New Era of Cosmology and Astrophysics with Galaxy Clusters (#1546)	14h00	**Jorge Rueda** On globally and locally neutral static and rotating neutron stars (#1548)
	14h30	**Bruno Moraes** The CFTH/MegaCam Stripe-82 Survey (CS82): Overview and First Results (#1513)	14h18	**German Lugones** Hybrid Stars In The Light Of The Massive Pulsar PSR J1614−2230 (#1512)
	14h45	**Victor De Castro Mourão Roque** Unveiling the QCD phase transition through the eLISA/NGO detector (#1509)	14h36	**Carlos Frajuca** Estimating pulsars' braking indices (#1471)
	15h00	**Reinaldo Rosa** A new gravitational N-body simulation algorithm for investigation of chaotic advection in astrophysical and cosmological systems (#1544)	14h54	**Jorge Horvath** "Black Widow" pulsars and related objects (#1469)
	15h15	**Tomonori Totani** FastSound: Testing Gravity at z > 1 by Redshift Space Distortion with Subaru/FMOS (#1455)	15h12	**Riccardo Ciolfi** Poloidal-Field Instability In Magnetized Relativistic Stars (#1442)
16h10-18h00		COS-II Maria Luiza Bedran		COB-II Jorge Rueda
	16h10	**Nelson Pinto Neto** The quantum-to-classical transition of primordial cosmological perturbations (#1534)	16h10	**Joseph Mitchell** Shell Flashes on H/He Accreting CO White Dwarfs (#1465)
	16h25	**Alnadhief Alfedeel** The Null Cone Observations in Lemaître metric (#1552)	16h28	**Patricia Arevalo** Accretion disc - corona connection in AGN (#1503)
	16h40	**Vladimir Strokov** Phenomenological Approach in the Study of Singularity Problem (#1452)	16h46	**Jaderson Schimoia** Short timescale variations of the H alpha double-peaked profile of the nucleus of NGC 1097 (#1499)
	16h55	**Osamu Seto** Asymmetric dark matter after a cosmological phase transition (#1474)	17h04	**Jorge Cuadra** Stellar Winds and the Infalling Cloud in the Galactic Centre (#1502)
	17h10	**Reinaldo Rosa** Alternative cosmology from cusp geometries (#1545)	17h22	**Mauri Valtonen** Proof of the no-hair theorem for the OJ287 primary black hole (#1422)
	17h25	**Marcelo Byrro Ribeiro** Fractal Analysis Of The Galaxy Distribution In The Redshift Range 0.45 < z < 5.0 (#1555)	17h40	**M. Angelez Perez-Garcia** Multi-messenger emission from Neutron star internal phase transition (#1432)

Segunda-feira (17 de dezembro)

14h00-15h30		HEA-I João Braga		GIA Thaisa Storchi-Bergmann
	14h00	**Alexander Van Der Horst (2012 IUPAP winner of the YOUNG Scientist Prize in Astrophysics)** From gamma rays to radio waves: the extremes of gamma-ray bursts (#1543)	14h00	**Carlos Argüelles** Fermionic Dark Matter and galactic structures at all scales (#1539)
			14h18	**Ronaldo Vieira** A third integral of motion for nearly equatorial orbits in axisymmetric thin disks (#1470)
	14h36	**Lixin Dai** Simulating tidal disruptions of stars by supermassive black holes: extracting black hole spin (#1497)	14h36	**Vanessa Pacheco De Freitas** Self-gravitating disks: aspects of stability (#1479)
	14h54	**Roland Walter** The tidal disruption of an extrasolar planet detected at hard X-rays (#1421)	14h54	**Daniel Alf Drehmer** Dynamical model for the stellar kinematics and determination of the the mass of the supermassive black hole in NGC 4258 (#1507)
	15h12	**Luis Juracy Lemos** Luminosity Function of GRBs (#1556)	15h12	**Michael Kesden** Tidal disruption by spinning supermassive black holes (#1490)
16h10-17h40		HEA-II Odylio Denys Aguiar		COB-III Jorge Horvath
16h10		**João Braga** The MIRAX Mission on the Lattes Satellite (#1431)		**Claudia Aguilera Gómez** Failure Conditions of the Elastic Crust of Neutron Stars (#1478)
16h28		**Fabrizio Tavecchio** Axion-like particles and emission of very high energy gamma rays in blazars (#1441)		**Michael Gabler** Modulating the emission of magnetars - neutron star seismology with QPOs of SGRs (#1447)
16h46		**Ulisses De Almeida** Relativistic astrophysical sources: New results from MAGIC (#1476)		**Cecilia Chirenti** F-modes of slowly and differentially rotating stars (#1424)
17h04		**Peter Eger** Search for Very-high-energy gamma-ray emission from Galactic globular clusters with H.E.S.S. (#1484)		**Shinichiro Yoshida** A numerical eigenmode analysis of rotating relativistic stars (#1425)
17h22		**Amy Furniss** VERITAS Extragalactic Gamma-ray Observations (#1489)		**Manuel Malheiro** Magnetic moments of SGRs and AXPs as white dwarfs pulsars (#1553)

Quarta-feira (19 de dezembro)

14h00-15h30	HEA-III João Braga	COB-IV José C. N. De Araújo
14h00	**Elisabete De Gouveia Dal Pino** Particle Acceleration by Magnetic Reconnection: from solar flares to AGNs and GRBs (#1454)	**William Lima** Awaking the vacuum in relativistic stars (#1429)
14h18	**Zhuo Li** Gamma-ray burst neutrino limit from IceCube and Fermi observations (#1456)	**Raissa Mendes** Vacuum awakening in spheroidal configurations (#1491)
14h36	**Arman Esmaili** Indirect Dark Matter Detection in the Light of Sterile Neutrinos (#1516)	**André Landulfo** Particle creation due to tachyonic instability in relativistic stars (#1428)
14h54	**Bernardo Fraga** Self-gravitating system of fermions as dark matter halos and central objects in galaxies (#1536)	**Rodrigo Macedo** Time evolution of non-symmetric Robinson-Trautman spacetimes (#1538)
15h12	**Andrea Giuliani** SNR W44, the first unambiguous evidence of gamma-rays emission from neutral-pions decay (#1495)	**Danilo Teixeira** No Evidence For Bardeen-Petterson Alignment In Conservative GRMHD Simulation Of Moderately Thin, Tilted Accretion Disk (#1532)
16h10-17h40	HEA-IV Elisabete De Gouveia Dal Pino	NGW-I César Augusto Costa
16h10	**Kumiko Kotera** Pulsars, supernovae, and ultrahigh energy cosmic rays (#1423)	**Odylio Denys Aguiar** Schenberg Gravitational Wave Antenna: Status Report (#1510)
16h28	**Sander Walg** Relativistic AGN jets: The effect of radial stratification on internal shocks and jet integrity (#1430)	**Andrezj Krolak** Searching for gravitational wave signals from rotating neutron stars with the LIGO and Virgo detectors (#1434)
16h46	**Dmitry Chernyshov** Possible link between FERMI bubbles and cosmic rays (#1480)	**José C. N. De Araújo** Searching for Gravitational Waves with a Geostationary Interferometer (#1550)
17h04	**Ke Fang** Very High and Ultrahigh Energy Cosmic Ray Nuclei from Pulsars (#1494)	**Cristina Valéria Torres** Capitalizing on GW polarization bias for a pair of interferometric detectors to increase parameter estimation speed and the potential implications for cosmological models (#1518)
17h22		**Curt Cutler** Improved versions of the F-statistic for more efficient GW pulsar searches (#1519)

Quinta-feira (20 de dezembro)

14h00-15h30	HEA-V Odylio Denys Aguiar	NGW-II Marcio Eduardo da Silva Alves
14h00	**Jozef Skakala** No asymptotically highly damped quasi-normal modes without horizons? (#1445)	**Gabriel Perez-Giz** Bigrade Orbits Around Kerr Black Holes (#1540)
14h18	**Maria Victoria Del Valle** Bowshocks of runaway stars as gamma-ray sources (#1462)	**Motoyuki Saijo** Nonlinear effect of r-mode instability in uniformly rotating stars (#1468)
14h36	**Efrain Ferrer** Effect of Diquark-Diquark Repulsion in the EoS of Strongly Interacting Systems (#1531)	**Carlos Frajuca** Network of interferometric gravitational wave detectors sensitivity for identifying the metric theory of gravity (#1473)
14h54	**Ana Virginia Penacchioni** Recent progress on the Induced Gravitational Collapse Model (#1537)	**Daniela Delia Alic** Electromagnetic and Gravitational Wave emission from merger of supermassive black holes in force-free plasma (#1439)

Posters organization

Posters will be announced in the parallel sessions and will be placed in the foyer close to the coffee break area for better visibility. They are listed below according their topics:
Alternative Models and Theories
Pedro Moraes - Cosmology from Kaluza-Klein gravitational model (#1485)

Rodrigo De Souza - Reducing the parameter space for Unparticle-inspired models using white dwarf masses (#1482)

Felipe Nogueira - Fractal Characteristics in the Lemaître-Tolman-Bondi Cosmology (#1457)

Antônio Carlos Amaro de Faria Júnior - Calculating Vacuum Energy from a Universal Background (#1449)

Compact Objects
Gibran Henrique de Souza - Comparison between SLy and the polytropic equation of state for Neutron stars structure (#1560)

Sheyse Martins de Carvalho - On The Relativistic Feynman-Metropolis-Teller Equation of State at Finite Temperatures and its Applications to White Dwarfs (#1554)

Carlos Eduardo Cedeño Montaña - Collapse of a cloud of matter to form a polytropic star in the characteristic formulation of general relativity (#1526)

Pedro Marronetti - Initial Data for Binary Neutron Stars with Arbitrary Spin and Orbital Eccentricity (#1524)

José Arbañil - An overview of the generalizations of the Birkhoff theorem (#1483)

Vilson Tonin Zanchin - Compact objects in General Relativity: testing the Buchdahl limit for charged spheres (#1469)

Cristóbal Armaza - MHD equilibria in barotropic stars (#1466)

Marcio Bronzato de Avellar - Time lags in the kilohertz quasi-periodic oscillations of the low-mass X-ray binaries 4U1608-52 and 4U1636-53 (#1460)

Renan Santos - Models of Pulsars Binary Systems and Emission of Gravitational Waves (#1443)

Cosmology
Fabio Cabral Carvalho - Integrated Sachs-Wolfe effect as probe dark energy (#1547)

Leonardo Castañeda Colorado - Weak Gravitational Lensing and Cosmological Perbutation Theory (#1520)

Gil De Oliveira Neto - Notes on the use of curvature scalars in order to identify singularities in quantum cosmology (#1492)

Amanda Reis Lopes - Cosmic time evolution of the average galactic mass and luminosity from z=0.5 to z=5 (#1459)

Antônio Carlos Amaro de Faria Júnior - Variation of the speed of light and the invariance of the Fine Structure Constant (#1453)

Claudio Nassif Da Cruz - Doubly special relativity with an invariant minimum speed and the accelerated expansion of the universe (#1450)

André Luís Delvas Fróes - Screening Mechanisms in Cosmology (#1446)

Maria Luiza Bedran - Evolution of the scale parameter in a universe filled with a van der Waals fluid (#1444)

Eduardo Dos Santos Pereira - Super-Massive Black Hole accretion of Matter in the Dark -Energy Cosmologies (#1435)

Malu Maira da Silva - Brownian motion of a test particle coupled to vacuum fluctuations near a reflecting plane (#1562)

High Energy Astrophysics/Astroparticle Physics
Vivian De La Incera - Electric Susceptibilities of Strongly Magnetized Fermion Systems (#1542)

Laura Paulucci - Photonuclear reactions in a gamma ray burst environment (#1506)

Francesco De Palma - The First Fermi-LAT Catalog of Supernova Remnants (#1504)

Andrzej Niedzwiecki - Gamma-ray emission from hot accretion flows (#1498)

David Ian Jones - Co-moving coordinates: bringing low-frequency radio and (V)HE gamma-ray astronomy together (#1486)

Luís Henrique Sinki Kadowaki - MHD simulations of magnetic reconnection in accretion disk systems (#1477)

Luiz Augusto Stuani Pereira - Cosmic ray Veto of the MARIO SCHENBERG Gravitational Wave Detector (#1464)

Maria Victoria Del Valle - First Order Fermi acceleration rate in turbulent magnetic reconnection sites (#1463)

Behrouz Khiali - Non-thermal Emission from the Accretion-Disk/Coronae of AGNs and Particle Acceleration by Magnetic Reconnection (#1461)

Wlodek Bednarek - Curvature Origin of the Sub-TeV Pupsed Gamma-Ray Emission from the Light Cylinder Region of the Crab Pulsar Magnetospehere (#1440)

Florencia Laura Vieyro - Neutrino emission from Population III gamma-ray bursts (#1436)

Instrumentation for Relativistic Astrophysics
César Augusto Costa - The Critical Coupling Likelihood method, one approach for linking gravitational wave search software with gravitational wave detector hardware (#1493)

Marcio Constancio Junior - Comparison between a Multi-Nested Pendula and a multi-linear pendula system (#1487)

Carlos Frajuca - A New Design for Mechanical Impedance Matchers for Transducers in Spherical Gravitational Wave Detectors (#1475)

Carlos Frajuca - A phase modulator controller of pulsed ion beams (#1472)

Desiree Della Monica Ferreira - Design and development of coatings for the ATHENA mission (#1541)

New Projects/Missions/New Windows/Gravitational Waves
Marcio Eduardo da Silva Alves - Resolving polarization modes of gravitational waves in Pulsar Timing experiments (#1551)

Stephen Bruenn - Axisymmetric Core-Collapse Supernova Simulations from First Principles (#1525)

Juliana Celestino - Polarization of gravitational waves due propagation in an anisotropic background gravitational field (#1517)

Eduardo Valentino Tonini - The gravitational wave recoil in the merger of two colliding black holes: the non-head-on case (#1514)

Ivano Damião Soares - The Bondi-Sachs Four Momentum in Non-Axisymmetric Robinson-Trautman Spacetimes (#1505)

Gabriela Nunes Depetri - N-body Choreographies and Gravitational Waves (#1500)

Fabio Da Silva Bortoli - Sphere suspension in Schenberg Detector: Vibrational analyses of the attenuation in the seismic noise (#1488)

Fabio Da Silva Bortoli - Schenberg Detector: Vibrational Isolation of Thermal Conection from the Dilution Refrigerator (#1481)

Carlos Filipe da Silva Costa - Low latency data analysis for spherical gravitational wave detectors (#1458)

Antônio Carlos Amaro de Faria Júnior - Gravitational Waves in Braneworld Scenarios with AdS Background (#1448)

Rubens De Melo Marinho Junior - Gravitational Wave Data Analysis (#1427)

Palestra Pública

Para informar o público sobre os correntes desenvolvimentos em Cosmologia, Gravitação, Física de Astropartículas e áreas relacionadas à Astrofísica Relativística, o comitê organizador do 26th Texas Symposium está promovendo uma séries de palestras públicas. Estas palestras serão orientadas a professores e alunos interessados em ciências, especialmente Física e Astronomia. Elas serão gratuítas e ingressos serão distribuídos em instituições de ensino locais. Algumas das palestras serão ministradas em Português.

Palestras Confirmadas

Martin Makler - CBPF/MCTI - "Universo"
George Matsas - IFT/UNESP - "Buracos Negros: Rompendo os Limites da Ficção"
Jorge Hovarth - IAG/USP - "Astrofisica Relativistica: Supernovas, Estrelas de Neutrons e Buracos negros hoje. "

Proceedings

Em Breve!

Primeira Circular (em inglês)

The 26th Texas Symposium on Relativistic Astrophysics will be held in São Paulo city, Brazil, from December 15-20, 2012, hosted by National Institute for Space Research (INPE). The Symposium will be held at Hotel Bourbon Convention Ibirapuera. If you want to reserve a room, please send an e-mail to reservas.conv@bourbon.com.br, with a CC to texas2012sp@gmail.com, and let they know you are attending TEXAS2012, there is a special price of R$ 302,00 (around USD 170) per day + 5% for people attending the symposium and for the period of December 15-20.

As in the previous editions of the Texas Symposium, Texas 2012 will cover recent developments in Cosmology, Gravitation, Astroparticle Physics and related areas of Relativistic Astrophysics with emphasis on the most recent developments in the field.

The plenary sessions will take place in the mornings and the parallel sessions in the afternoons. The Symposium will also have poster sessions.

Topics of the plenary talks:
1) State of the Universe Properties of Primordial Fluctuations from CMB and other data;
2) CMB;
3) LHC Results and Their Impact to Cosmology;
4) The Accelerating Universe: Dark Energy (main topic) and Alternative Models(to be mentioned);
5) Dark Matter (main topic) and Alternative Models (to be mentioned);
6) Large-Scale Structure, Galaxy and SMBH Formation and Growth, and the Milky Way Case;
7) Tidal Disruption Events;
8) Relativistic Jets (main topic) and Cosmic Magnetic Fields (secondary topic);
9) Gravitational Lensing;
10) Neutrino Physics and Astrophysics;
11) Astrophysical tests of general relativity in the strong-field regime;
12) Ultra-High Energy Cosmic Rays: Theory, Results, and Prospects;
13) Gamma ray Astronomy from GeV to TeV Energies;
14) SNe;
15) Crab Pulsar/Nebula;
16) Electromagnetic Signals that Accompany Neutron Stars Mergers, Supernova Shock Break Out and Low Luminosity GRBs;
17) Pulsars and Magnetars;
18) Astrophysics with the First Hard X-ray Imaging Telescopes: NuSTAR and the Future ASTRO-H;
19) Gravitational-Wave Detection using Laser Interferometer Systems and Pulsar Timing Arrays;
20) Gravitational Wave Observatories: the science they are telling us already and the LOOCUP Project;
21) Numerical Relativity;
22) New Frontiers in Relativistic Astrophysics: The Event Horizon Telescope and other Future Project-s/Missions;

Scientific organizing committee (SOC):
Odylio D. Aguiar (INPE, Brazil) - chair
Jorge Horvath (USP, Brazil) - co-chair
Felix Aharonian (Max Planck Inst., Germany)
Roger Blandford (KIPAC/Stanford, USA)
J. Richard Bond (CITA, Canada)
Catherine J. Cesarsky (CEA Saclay, France)
George Ellis (U. Cape Town, South Africa)
Valeria Ferrari (U. Rome, Italy)
Joshua Friemann (University of Chicago, USA)
Carlos O. Escobar (Unicamp, Brazil)
Jose A. Freitas Pacheco (OCA, Nice, France)
Gabriela Gonzalez (LSU, USA)
Victoria Kaspi (McGill, Canada)
Edward Kolb (Chicago, USA)
Avi Loeb (Harvard, USA)
Richard Manchester (ATNF, Australia)
Gustavo E. Romero (IAR-CONICET, Argentina)
Mario Novello (CBPF, Brazil)
Angela Olinto (U. Chicago, USA)
Thanu Padmanabhan (IUCAA, India)
Dany Page (UNAM, Mexico)
Tsvi Piran (The Hebrew University, Israel)
Martin Rees (Cambridge, GB)
Ronald Remillard (Harvard, USA)
Joe Silk (Oxford, GB)
Susan Scott (ANU, Australia)
Alexei Starobinsky (Landau Institute, Russia)
Thaisa Storchi-Bergmann (UFRGS, Brazil)
Virginia Trimble (UC Irvine & Las Cumbres Obs., USA)
Clifford Will (Washington University, USA)

Local Organizing Committee (LOC):
Jose Carlos N. de Araujo (INPE) - chair
Odylio D. Aguiar (INPE) - co-chair
Marcio E.S. Alves (UNIFEI)
Maria Luiza Bedran (UFJF)
Cecilia Chirenti (UFABC)
Cesar Augusto Costa (INPE)
Carlos Frajuca (IFSP)
Jorge Horvath (USP)
Nadja S. Magalhaes (UNIFESP)
Nelson Pinto Neto (CBPF)
Marcelo B. Ribeiro (UFRJ)
Cesar Augusto Z. Vasconcellos (UFRGS)

The website of Texas 2012 will be on the air in a few weeks.
The second circular will announce it.

To know a little bit about São Paulo have a look at

http://www.visitesaopaulo.com/en/
http://www.cidadedesaopaulo.com/sp/
http://www.youtube.com/watch?v=r0Mq6eggFNE
http://en.wikipedia.org/wiki/Sao_Paulo

We look forward to seeing you in São Paulo in December!

LOC
Texas 2012 SP
texas2012sp@gmail.com

Segunda Circular (em inglês)

The 26th Texas Symposium on Relativistic Astrophysics (TEXAS 2012) will be held in São Paulo City, Brazil, from December 15-20, 2012.

The registration and submission of abstracts for TEXAS 2012 is now open and can be done at http://www.das.inpe.br/texas2012sp.

The student registration fee is R$ 500 (~ USD 250); the early, till October 12th, regular registration fee is R$ 900 (~ USD 450); after October 12th the regular registration fee will be R$ 1,100 (~ USD 550).

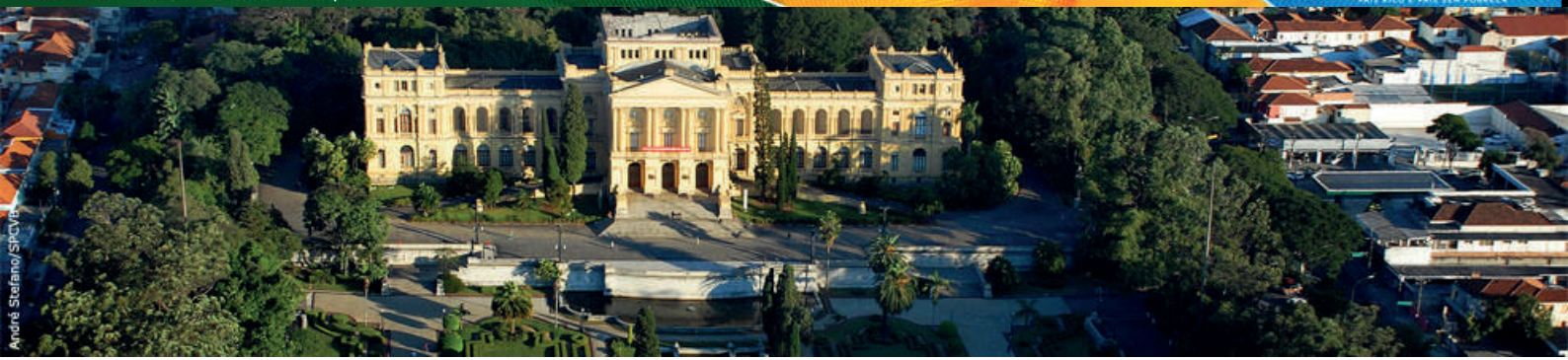
Accommodations: The conference will be held at the Bourbon Convention Ibirapuera. Take advantage of the special rates available to the conference attendees (http://www.das.inpe.br/texas2012sp/accommodation.php). There are also special prices for other hotels, and we are negotiating additional options, in particular the more economical ones.

Tours: there is a travel agency in charge of the city tour (http://www.das.inpe.br/texas2012sp/attractions.php).

Visa: Have a look at http://www.das.inpe.br/texas2012sp/deadlines_and_fees.php for important information. In the case of any problem regarding this or other issues. Do not hesitate to get in touch with the LOC (texas2012sp@gmail.com).

We look forward to seeing you in São Paulo City (also known as Sampa).

J.C.N. de Araujo
LOC
Texas 2012 - São Paulo - Brazil



Terceira Circular

The end of early regular registration fee to the 26th Texas Symposium on Relativistic Astrophysics" (TEXAS 2012) is approaching. After October 12 the regular registration fee will be of R$ 1.100,00 (one thousand and one hundred reais).

Notice that the student registration fee will not change, it will be of R$ 500,00 (five hundred reais) till November 12.

We look forward to seeing you in Sampa.

J.C.N. de Araujo
LOC
Texas 2012 - São Paulo - Brazil
http://www.das.inpe.br/texas2012sp

Quarta Circular

26th Texas Symposium on Relativistic Astrophysics (TEXAS 2012)

The early registration fee deadline was EXTENDED until OCTOBER 31st.

You can see the program of the plenary talks at http://www.das.inpe.br/texas2012sp/program.php.

We look forward to seeing you in Sampa.

J.C.N. de Araujo
LOC
Texas 2012 - São Paulo - Brazil
http://www.das.inpe.br/texas2012sp

Quinta Circular

26th Texas Symposium on Relativistic Astrophysics (TEXAS 2012)

. The Registration deadline is approaching: November 12.

. Take advantage of the reduced fee till October 31.

. You can see the program of the plenary talks at http://www.das.inpe.br/texas2012sp/program.php

Don't miss this exciting Texas Symposium!

J.C.N. de Araujo
LOC
Texas 2012 - São Paulo - Brazil
http://www.das.inpe.br/texas2012sp

Sexta Circular

26th Texas Symposium on Relativistic Astrophysics (TEXAS 2012)

General information

. Find the complete program of Texas2012 in its webpage, where it is also possible to download the Abstract Book.

. Notice that there will be a brief opening ceremony on Sunday at 8h30.

. Registration fee: who is paying it in Brazil, we call your attention that it will be only possible to pay it in cash and in the Brazilian currency (reais).

. Local and Transport: in http://www.das.inpe.br/texas2012sp/location.php one finds the directions to Texas 2012.

. Weather: moist, sparse showers, and temperatures of ~ 20 - 30 oC (70-90 oF) throughout Texas 2012.

. Plug adapter: Brazil has its own standard on outlets, although some other standards might fit. Have a look at http://www.signalandpower.com/news/new-brazilian-standards.html. A universal adapter can be easily found at airport stores or in the Ibirapuera shopping center across the street from the hotel.

. Voltage: in general 110 V and 220V at the convention center

. Hints: For your daily (small) expenses in Brazil consider to have something around 100 reais / day. Notice that credit cards are widely accepted anywhere.
Some restaurants/bars/taxis already charge you 10% service fee, take a look at the bill. So it is not common to leave additional tip unless you consider that the service was really good.

We look forward to seeing you in Sampa.

J.C.N. de Araujo
LOC
Texas 2012 - São Paulo - Brazil
http://www.das.inpe.br/texas2012sp

Outros Texas Symposia

Dallas 27th - 50 years
2012 - São Paulo 26th
2010 - Heidelberg 25th
2008 - Vancouver 24th
2006 - Melbourne 23rd
2004 - Stanford 22nd
2002 - Florence 21st
2000 - Austin 20th
1998 - Paris 19th
1996 - Chicago 18th
1994 - Munich 17th
1992 - Berkeley 16th
1990 - Brighton 15th
1988 - Dallas 14th - 25 years
1986 - Chicago 13th
1984 - Jerusalem 12th
1982 - Austin 11th
1980 - Baltimore 10th
1978 - Munich 9th
1976 - Boston 8th
1974 - Dallas 7th
1972 - New York 6th
1970 - Austin 5th
1968 - Dallas 4th
1967 - New York 3rd
1964 - Austin 2nd
1963 - Dallas 1st