Session Program

July 30, 2026 to August 5, 2026

43rd International Conference on High Energy Physics

Astroparticle Physics and Cosmology

Natal Convention Center
Via Costeira Sen. Dinarte Medeiros Mariz, 6664-6704 - Ponta Negra, Natal - RN, 59090-002

Thu, July 30

8:30 AM

Astroparticle Physics and Cosmology

Session |
Location: Praiamar Natal Hotel & Convention, Room #2, R. Francisco Gurgel, 33 - Ponta Negra, Natal - RN, 59090-050 |
Convener: Rita Anjos

8:45 – 9:00 AM **Analysis of the α-Starobinsky Inflationary Model**

Speaker
Dr Clara Rojas

9:00 – 9:15 AM
Towards gravitational two-body dynamics at 6th post-Newtonian order

Speaker
Mr Riccardo Sturani

9:15 – 9:30 AM **Phantom crossing in interacting dark energy models**

Speaker
Prof. Rogerio Rosenfeld

9:30 – 9:45 AM
Cosmic-Collider Particle Production from Runaway Bubble Collisions and Its Gravitational-Wave Imprints

Speaker
Martin Arteaga Tupia

9:45 – 10:00 AM
Impact of a low-mass $Z^{\prime}$ gauge boson on the astrophysical neutrino flux

Speaker
Reinaldo Francener

10:15 AM

10:45 AM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Alberto Daniel Supanitsky

10:45 – 11:00 AM
Status and Astrophysics Results of the Baikal-GVD Neutrino Telescope

Speaker
Bair Shaibonov

11:15 – 11:30 AM
Conformal Neutrino Mass Models as Multi-Messenger Sources: Phase Transitions, Gravitational Waves, PBHs, and Magnetogenesis

Speaker
Roman Pasechnik

11:30 – 11:45 AM
Search of high energy neutrino sources using multi-messenger approach

12:30 PM

Speaker
Mr Rajendra Neupane

Fri, July 31

8:30 AM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Prof. Miguel Mostafa

8:30 – 8:45 AM

Properties of Cosmic Beryllium Isotopes Measured by the Alpha Magnetic Spectrometer

Speaker
Liankun Zou

8:45 – 9:00 AM

Unique Properties of 14.5-Year Positron and Electron Spectra measured by AMS

Speaker
Zetong Sun

9:00 – 9:15 AM

Unique Properties of the 3rd Group of Cosmic Rays measured by the Alpha Magnetic Spectrometer

Speaker
Hengyi Cai

9:30 – 9:45 AM

Properties of Cosmic Lithium Isotopes Measured by the Alpha Magnetic Spectrometer

Speaker
Yao Chen

9:45 – 10:00 AM

Unique Features of 14.5-Year Anti-Proton Spectrum measured by AMS

Speaker
Dr Hsin-Yi Chou

10:00 – 10:15 AM

Unique Properties of Primary and Secondary Cosmic Rays measured by the Alpha Magnetic Spectrometer

Speaker
Jack Henry Bolster

10:15 AM

10:45 AM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Claudio Dib

10:45 – 11:00 AM

Very special linear gravity: A gauge-invariant graviton mass

Speaker
Jorge Alfaro

11:15 – 11:30 AM

The Hubble Tension: Relativistic Dark Matter Production from Long-lived Particles

Speaker
Matheus M. A. Paixão

11:30 – 11:45 AM
When Dark Photons Shine or Fade: Three-Photon versus Neutrino Decays Below $2m_e$

Speaker
Prof. Alexander Belyaev

11:45 AM – 12:00 PM
Measurement of the underground muon flux at Y2L and Yemilab with the COSINE-100 and COSINE-100U experiments

Speaker
Luis Eduardo Funo de Moura Franca

12:00 – 12:15 PM
From Smooth to Stochastic: Galactic Supernova Fluxes of MeV Particles and Their Detection

Speaker
Dr Andres Daniel Perez

12:30 PM

2:30 PM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Ruben Conceição

2:30 – 2:45 PM
Mass composition of ultra-high-energy cosmic rays at the Pierre Auger Observatory

Speaker
Carlos José Todero Peixoto

2:45 – 3:00 PM
ALPACA: a new air shower array experiment for ultra-high-energy gamma-ray astronomy in the southern hemisphere

Speaker
Sei Kato

3:00 – 3:15 PM
Latitudine dependence of Forbush events observed with the detectors of the Extreme Energy Events Project

Speaker
Cristina Ripoli

3:30 – 3:45 PM **The Radio Detector at the Pierre Auger Observatory**

Speaker
Beatriz de Errico

3:45 – 4:00 PM
Could a Primordial Black Hole Explosion Explain the Extremely High-Energy KM3NeT Neutrino Event?

Speaker
Lua Figueiredo Trava Airoldi

4:15 PM

4:45 PM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Carlos José Todero Peixoto

4:45 – 5:00 PM

Cosmic muon spectrum at Madurai, India and tuning of model paramters in CORSIKA

Speaker
Gobinda Majumder

5:00 – 5:15 PM

Probing Hadron Production Beyond Collider Energies with Extensive Air Showers

Speaker
Ruben Conceição

5:15 – 5:30 PM

Sensitivity of Shower Footprint Variables to High- and Low-Energy Hadronic Interaction Models

Speaker
Maria Inês Beja da Costa Soromenho de Alvito

5:30 – 5:45 PM

From Colliders to Cosmic Rays: Testing Hadronic Interaction Models

Speaker
Analisa Gabriela Mariazzi

5:45 – 6:00 PM

Testing high-energy hadronic interaction models through the muon charge ratio in extensive air showers

Speaker
Ademar Paulo Junior

6:00 – 6:15 PM

Multi-messenger Emission from Radio Galaxies: Models and Constraints

Speaker
Prof. Rita de Cassia Dos Anjos

6:30 PM

Sat, August 1

8:30 AM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Carlos José Todero Peixoto

8:45 – 9:00 AM

The CONDOR Observatory: Reaching 100 GeV Sensitivity in Gamma Rays at Extreme Altitude (5300 m a.s.l.)

Speaker
Dr Nicolas Viaux Maira

9:15 – 9:30 AM

Discriminating Heavy Cosmic Rays via Direct Cherenkov Light with the MAGIC Telescopes

Speaker
Miguel Molero Gonzalez

9:45 – 10:00 AM

From UHECRs to Neutrinos and Photons: Multimessenger Science at Auger

Speaker
Joao de Mello Neto

10:15 AM

10:45 AM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Joao de Mello Neto

10:45 – 11:00 AM

Event Reconstruction and Gamma-Hadron Separation with TAIGA-IACT

Speaker
Pavel Bezyazeekov

11:00 – 11:15 AM

Status and new developments for PEPS

Speaker
Ioana Maris

11:30 – 11:45 AM

Technological Developments in Rotomolded HDPE Tanks for Water Cherenkov Detectors

Speaker
Luis Miguel Domingues Mendes

11:45 AM – 12:00 PM

Construction and test of a position-sensitive Muon detector using wavelength-shifting (WLS) optical fibers

Speaker
Bruno Basso Manzato

12:30 PM

2:30 PM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Analisa Gabriela Mariazzi

3:15 – 3:30 PM **Current status of SuperNova Early Warning System 2.0**

Speaker
Dr Andrey Sheshukov

3:30 – 3:45 PM **Magnetic Field Effects on Shock Waves Produced During Stellar Core-Collapse**

Speaker
Magdeline Mohlao

4:15 PM

4:45 PM

Astroparticle Physics and Cosmology

Session | **Location:** Praiamar Natal Hotel & Convention, Room #2 | **Convener:** Ioana Codrina Maris

4:45 – 5:00 PM **Unique Properties of Daily Proton and Helium Fluxes up to 100 GV**

Speaker
Lisa Romaneehsen

5:00 – 5:15 PM **Determination of Anisotropy of Elementary Particles**

Speaker
Alberto Aceituno García

5:15 – 5:30 PM **Seasonal Variation of Cosmic Muons at Daya Bay using the Full Dataset**

Speaker
Mr Bangzheng Ma

5:30 – 5:45 PM **Cosmic Anti-Protons and Properties of Elementary Particle Fluxes**

Speaker
Dr Senquan Lu

6:00 PM