

## Session Program

Jul 6 - 13, 2022



## ICHEP 2022

### *Astroparticle Physics and Cosmology*

Bologna, Italy  
Palazzo della Cultura e dei Congressi

## Thu, July 7

9:00 AM

### Astroparticle Physics and Cosmology

Session | Location: Room 8 (Blu) | Convener: Fabio Finelli

9:00 – 9:15 AM **Tachyonic preheating and its observational signatures**

**Speaker**

Eemeli Tomberg

9:15 – 9:30 AM **Ending inflation with a bang: Higgs vacuum decay in  $R^2$  gravity**

**Speaker**

Andreas Mantziris

9:30 – 9:45 AM **Phase transitions: A source of cosmic-frontier phenomenology**

**Speaker**

Eliel Camargo-Molina

9:45 – 10:00 AM **Bubble wall dynamics at the electroweak phase transition**

**Speaker**

Andrea Guiggiani

10:00 – 10:15 AM

**Fate of electroweak symmetry in the early Universe: Non-restoration and trapped vacua in extended Higgs sectors**

**Speaker**

Thomas Biekoetter

10:15 – 10:30 AM **Leptogenesis from U(1) flavor symmetry**

**Speaker**

Simone Marciano

10:30 – 10:45 AM **Slow-roll inflation in Palatini F(R) gravity**

**Speaker**

Dr Antonio Racioppi

10:45 AM

11:15 AM

### Astroparticle Physics and Cosmology

Session | Location: Room 8 (Blu) | Conveners: Guenter Sigl, Fabio Finelli

11:15 – 11:30 AM **The LiteBIRD mission**

**Speaker**

Daniela Paoletti

11:30 – 11:45 AM **Redshift evolution of cosmic birefringence in CMB anisotropies**

**Speaker**

Matteo Galaverni

11:45 AM – 12:00 PM

**Cosmic Birefringence: Cross-Spectra and Cross-Bispectra with CMB Anisotropies**

**Speaker**

Alessandro Greco

12:00 - 12:15 PM

**DarkHistory NN: Computing early universe exotic energy injection imprints with Neural Network****Speaker**

Yitian Sun

12:15 - 12:30 PM

**Relativistic Relics from the Primordial Bath: QCD Axion****Speaker**

Fazlollah Hajkarim

1:00 PM

2:30 PM

**Astroparticle Physics and Cosmology****Session** | **Location:** Room 8 (Blu) | **Conveners:** Sadakazu Haino, Mercedes Paniccia

2:30 - 2:45 PM

**Gravitational-wave event validation by Advanced LIGO and Advanced Virgo detectors. Procedures and challenges for the upcoming observing runs****Speaker**

Francesco Di Renzo

2:45 - 3:00 PM

**Impacts of the external environment on the Virgo detector during the third Observing Run (O3: April 2019 - March 2020)****Speaker**

Nicolas Arnaud

3:00 - 3:15 PM

**Revealing the Cosmic History with Gravitational Waves****Speaker**

Carlos Tamarit

3:15 - 3:30 PM

**Very Special Linear Gravity: A Gauge Invariant Graviton Mass****Speaker**

Alessandro Santoni

3:30 - 3:45 PM

**Gravitational-wave cosmology with dark sirens: state of the art and perspectives for 3G detectors****Speaker**

Michele Mancarella

3:45 - 4:00 PM

**Astrometry for Gravitational-Wave Detection in the 10 nHz- $\mu$ Hz Band****Speaker**

Dr Michael A. Fedderke

4:30 PM

5:00 PM

## Astroparticle Physics and Cosmology

**Session** | **Location:** Room 8 (Blu) | **Conveners:** Elisa Bernardini, Guenter Sigl

5:00 – 5:15 PM

### Unique Properties of Primary Cosmic Rays: Results from the Alpha Magnetic Spectrometer

**Speaker**

Qi Yan

5:15 – 5:30 PM

### Unique Properties of Secondary Cosmic Rays: Results from the Alpha Magnetic Spectrometer

**Speaker**

Alberto Oliva

5:30 – 5:45 PM

### Unique Properties of the 3rd Group of Cosmic Rays: Results from the Alpha Magnetic Spectrometer

**Speaker**

Yao Chen

5:45 – 6:00 PM

### Properties of Cosmic Deuteron and $^3\text{He}$

**Speaker**

Carlos Delgado

6:00 – 6:15 PM

### Properties of Cosmic Beryllium Isotopes

**Speaker**

Jiahui WEI

6:15 – 6:30 PM

### Anisotropy of Protons and Light Primary Nuclei in Cosmic Rays Measured with the Alpha Magnetic Spectrometer on the ISS

**Speaker**

Miguel Molero Gonzalez

6:30 – 6:45 PM

### Unique Properties of Daily Proton Fluxes up to 100 GV

**Speaker**

cristina consolandi

6:45 – 7:00 PM

### Precision Measurement of low energy positron fluxes by AMS

**Speaker**

Carmen Gámez López

7:00 – 7:15 PM

### Spectra of Cosmic Ray Fluorine, Sodium and Aluminum and the Hints of Low-energy Excesses

**Speaker**

Nicolò Masi

7:15 PM

## Fri, July 8

9:00 AM

### Astroparticle Physics and Cosmology

**Session** | **Location:** Room 8 (Blu) | **Convener:** Mercedes Paniccia

9:00 - 9:15 AM

#### LHCf Run II physics results in proton-proton collisions at $\sqrt{s} = 13$ TeV

**Speaker**

Dr Alessio Tiberio

9:15 - 9:30 AM

#### Exploring dark sector parameters in light of neutron star temperatures

**Speaker**

Prof. Guey-Lin Lin

9:30 - 9:45 AM

#### Electroweak phase transition with scalar portal to Majorana fermion dark matter

**Speaker**

Simone Biondini

9:45 - 10:00 AM

#### Dark sector freeze-out due to a non-Boltzmann suppression.

**Speaker**

Sougata Ganguly

10:00 - 10:15 AM

#### Boson stars, primary photons and phase transition

**Speaker**

Dr Gennady Kozlov

10:15 - 10:30 AM

#### Constraints on dark matter self-interaction from the galactic core sizes.

**Speaker**

Sambo Sarkar

10:30 - 10:45 AM

#### First results of DOSUE-RR experiment - the most stringent constraint for dark photon CDM at the mass range of 74\$-\$110 $\mu\text{eV}$

**Speaker**

Shunsuke Adachi

10:45 AM

11:15 AM

### Astroparticle Physics and Cosmology: Joint session with Dark Matter

**Session** | **Location:** Room 11 (Magenta A) | **Conveners:** Guenter Sigl, Marco Selvi

11:15 - 11:35 AM

#### Astrophysical Searches of Ultralight Particles

**Speaker**

Tanmay Kumar Poddar

11:35 - 11:50 AM

#### Flavor Violating Axions in the Early Universe

**Speaker**

Seokhoon Yun

11:50 AM - 12:05 PM

**Status update of the axion helioscope BabyIAXO****Speaker**

Cristina Margalejo Blasco

12:05 - 12:20 PM

**Search for QCD axion dark matter around 24.5  $\mu\text{eV}$  using an 8-cell microwave resonant cavity haloscope and a flux-driven Josephson Parametric Amplifier****Speaker**

Çağlar Kutlu

12:20 - 12:30 PM

**Strategies for high mass axion searches at IBS-CAPP****Speaker**

Dr Junu Jeong

12:30 - 12:45 PM

**Overview of BREAD: Broadband Reflector Experiment for Axion Detection****Speaker**

Jesse Liu

12:45 - 1:00 PM

**MADMAX - Towards a Dielectric Axion Haloscope****Speaker**

Chang Lee

1:00 PM

## Sat, July 9

9:00 AM

### Astroparticle Physics and Cosmology

**Session** | **Location:** Room 8 (Blu) | **Convener:** Elisa Bernardini

9:00 - 9:15 AM **Cosmological radiation density with non-standard neutrino physics**

**Speaker**

Sergio Pastor

9:15 - 9:30 AM **Searching for dark radiation at the LHC**

**Speaker**

Alessandro Morandini

9:30 - 9:45 AM

**Strong interactions in Cosmology: strong CP problem, neutrino mass, Dark Matter, Dark Energy and gravitational radiowaves**

**Speaker**

Roman Pasechnik

9:45 - 10:00 AM **Highlights from the ANTARES neutrino telescope**

**Speaker**

Maurizio Spurio

10:00 - 10:15 AM **Neutrinos from core-collapse supernovae at KM3NeT**

**Speaker**

Dr Isabel Goos

10:15 - 10:30 AM **Recent results from the Baikal-GVD neutrino telescope**

**Speaker**

Dmitry Zaborov

10:30 - 10:45 AM

**Probing hadronic interactions using the latest data measured by the Pierre Auger Observatory**

**Speaker**

Caterina Trimarelli

10:45 AM

11:15 AM

### Astroparticle Physics and Cosmology

**Session** | **Location:** Room 8 (Blu) | **Conveners:** Fabio Finelli, Elisa Bernardini

11:15 - 11:30 AM **The Euclid Mission**

**Speaker**

Antonino Troja

11:30 - 11:45 AM **Euclid: performance on main cosmological parameter science**

**Speaker**

Isaac Tutusaus

11:45 AM – 12:00 PM **Euclid Legacy Science prospects**

**Speaker**

Jenny Sorce

12:00 – 12:15 PM

**Baryon Acoustic Oscillations: difficulties, assumptions and a new promising cosmological standard ruler for the Euclid galaxy survey**

**Speaker**

Stefano Anselmi

12:15 – 12:30 PM **Multi-messenger studies with DESI**

**Speaker**

Dr Antonella Palmese

12:30 – 12:45 PM **Looking for dilaton fields in the Ly-alpha forest**

**Speaker**

Louis Hamaide

1:00 PM

2:30 PM

## Astroparticle Physics and Cosmology

**Session** | **Location:** Room 8 (Blu) | **Conveners:** Fabio Finelli, Chiara Caprini

2:30 – 2:45 PM **Early Universe Cosmology with LISA**

**Speaker**

Angelo Ricciardone

2:45 – 3:00 PM **Cosmology with massive black hole binary mergers in the LISA era.**

**Speaker**

Alberto Mangiagli

3:00 – 3:15 PM **Searching for primordial features with LISA**

**Speaker**

Jacopo Fumagalli

3:15 – 3:30 PM **Novel Manifestations of Primordial Black Holes**

**Speakers**

Volodymyr Takhistov, Volodymyr Takhistov

3:30 – 3:45 PM **Signature from Primordial Black Hole evaporation**

**Speaker**

Roberta Calabrese

3:45 – 4:00 PM

**Gravitational waves propagation as a probe of new fundamental physics**

**Speaker**

Leïla Haegel

4:30 PM

5:00 PM

## Astroparticle Physics and Cosmology

**Session** | **Location:** Room 8 (Blu) | **Convener:** Mercedes Paniccia

5:00 – 5:15 PM **Multi-Messenger astrophysics with the Pierre Auger Observatory**

**Speaker**

Massimo Mastrodicasa

5:15 - 5:30 PM

**The Pierre Auger Observatory: latest results and future perspectives****Speaker**

Federico Sanchez

5:30 - 5:45 PM

**ALPACA experiment: A new air shower array to explore the sub-PeV gamma-ray sky in the southern hemisphere****Speaker**

Takashi Sako

5:45 - 6:00 PM

**Latest results from DAMPE****Speaker**

Mikhail Stolpovskiy

6:00 - 6:15 PM

**CALET on the International Space Station: new direct measurements of cosmic-ray iron and nickel****Speaker**

Dr Francesco Stolzi

6:15 - 6:30 PM

**The High Energy Cosmic-Radiation Detection (HERD) facility for direct cosmic-ray measurements.****Speaker**

Nicola Mori

6:30 - 6:45 PM

**Recent results on gamma-ray observation by the Tibet ASgamma experiment****Speaker**

Masato Takita

7:00 PM