



# Advances in Space AstroParticle Physics Frontier Technologies for Particle Measurements in Space PERUGIA (IT) 19-23 June 2023

<https://indico.cern.ch/e/asapp2023>

**Abstract submission deadline: 15 March 2023**

## Second Bulletin – 27 Feb 2023

The ASAPP 2023 International Conference aims in reviewing the progresses in **design, development, integration and test of instrumentation for measurement of particles and high-energy radiation in Space.**

The event is planned to be held with in-person participation and plenary talks only with large slots dedicated to questions and discussions, taking advantage of conference venue and social events to foster constructive discussions between participants.

### Scientific program

The conference organizers invite the community to submit abstract proposals on the topics listed below

- Instrumentation and missions for direct high-energy cosmic ray measurements in space
- Instrumentation and missions for indirect high-energy cosmic ray measurements in space
- Instrumentation and missions for direct low-energy cosmic ray measurements in space
- Instrumentation and missions for hard X-ray and  $\gamma$ -ray direct measurements in space
- R&D of novel approaches and instruments for particle and high-energy radiation measurements in space

In consideration of the variegate approaches that have been consolidating in the current era of space observations, contributions that target all opportunities of space platforms will be addressed, from cubesats and nanosatellite constellations up to large-size space missions, including stratospheric balloon flight missions.

### Important dates

- 15 March 2023** - Abstract submission closes
- 31 March 2023** - Abstract acceptance communication
- 15 April 2023** - Early-bird registration closes (deadline for pre-reserved rooms)
- 31 May 2023** - Regular registration closes
- 18 June 2023** - Late registration closes
- 19 - 23 June 2023** - Conference runs
- 15 September 2023** - Proceeding submission closes

### Conference venue and accommodation

The conference will be hosted at Posta Donini ([link](#)), a historic residence that dates to the XVII century located just outside of Perugia (IT) with a large variety of amenities for and services. To benefit of all the informal discussions and of the fruitful exchange of ideas opportunities that such a place and such a stay could inspire, we strongly suggest to as accommodation, during the conference, the Posta Donini hotel. All the 48 rooms of the Posta Donini hotel have been pre-reserved for the participants of the conference.

We suggest to register to the conference and book the hotel as soon as possible. **Pre-reservation of the rooms will expire on 15 April 2023. Pre-reservations will be assigned on a "first come - first served" approach**  
Other accommodation solutions are suggested in the conference webpage





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### Conference proceedings

Conference proceedings will be published in a [Special Issue](#) hosted by the journal [MDPI Instruments](#).

*Instruments* is an international, peer-reviewed, open access journal of scientific instrumentation and its related methods and theory, published quarterly online by MDPI, and indexed in **Scopus**.

Further indications to authors for the production of the manuscripts will be provided in later stages. The deadline for proceeding submission is currently set to 15 September 2023.

### Participation of young researchers

The participation of young researchers is warmly welcome. A prize of 300 CHF will be sponsored by MDPI *Instruments* and will be awarded as "**Best presentation from young researchers**" award. Eligible researchers are presenters of oral contributions or posters at the conference that will have no more than 3 years of research activity after their Ph.D. at the date of the conference, and Ph.D. students.

### Preliminary program and solicited contributions

The preliminary program with solicited contributions is available at the conference [webpage](#) and attached to this bulletin. The program will be continuously updated based on abstract submissions and their acceptance.

#### Scientific Chairpersons

Matteo Duranti (INFN)  
Valerio Vagelli (ASI)

#### Scientific Advisory Committee

Oscar Adriani (University of Florence)  
Giovanni Ambrosi (INFN - Perugia)  
Roberto Battiston (University of Trento)  
Bruna Bertucci (University of Perugia)  
Terri Brandt (SRON)  
Elisabetta Cavazzuti (ASI)  
Enrico Costa (INAF)  
Immacolata Donnarumma (ASI)  
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Elizabeth A. Hayes (NASA - GSFC)  
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Eun Suk Seo (University of Maryland)  
Roberta Sparvoli (University of Rome Tor Vergata)  
Shoji Torii (University of Waseda)  
Philipp Von Doetinchem (University of Hawaii Manoa)  
Xin Wu (University of Geneva)  
Shuang-Nan Zhang (IHEP)

#### Local Organizing Committee

Mattia Barbanera (INFN – Perugia)  
Claudio Brugnoli (Univ. of Perugia)  
Paolo C. Orestano (Univ. of Perugia)  
Sara Cutini (INFN - Perugia)  
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Maura Graziani (Univ. of Perugia)  
Gianluigi Silvestre (INFN - Perugia)  
Nicola Tomassetti (Univ. of Perugia)  
Luca Tosti (INFN - Perugia)





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## PRELIMINARY PROGRAM and SOLICITED CONTRIBUTIONS

### Overview and outlooks

- F. Donato** Cosmic ray physics: current status and theoretical challenges
- P. Zuccon** Astroparticle physics in space: synergies with accelerator measurements (preliminary title)
- O. Adriani** Astroparticle physics in space: synergies with accelerator technologies (preliminary title)
- R. Battiston** Vision and perspectives about the future of astroparticle measurements in space (preliminary title)

### Instrumentation and missions for direct high-energy cosmic ray measurements in space

- J. Casaus** AMS-02 mission status and prospects (preliminary title)
- P. S. Marrocchesi** CALET mission status and prospects (preliminary title)
- X. Wu** DAMPE mission status and prospects (preliminary title)
- B. F. Rauch** SuperTIGER and TIGERISS mission status and prospects (preliminary title)
- P. von Doetinchem** GAPS mission status and prospects (preliminary title)
- N. Park** HELIX mission status and prospects (preliminary title)
- G. Ambrosi** Status of the AMS-02 upgrade with L0
- Y. Dong** Introduction of the HERD space mission
- S. Schael** AMS-100: The next generation magnetic spectrometer in space
- B. Bertucci** Proposals for the ALADInO magnetic spectrometer missions

### Instrumentation and missions for indirect high-energy cosmic ray measurements in space

- L. Wiencke** EUSO-SPB2 mission status and prospects (preliminary title)
- L. Marcelli** Mini-EUSO mission status and prospects (preliminary title)
- T.B.D.** POEMMA mission status and prospects (preliminary title)
- R. Aloisio** The Terzina instrument on board the NUSES mission

### Instrumentation and missions for hard X-ray and $\gamma$ -ray direct measurements in space

- N. M. Mazziotta** Future of  $\gamma$ -ray astronomy after Fermi-LAT (preliminary title)
- P. Soffita** Status of IXPE and future of soft and hard X polarimetry (preliminary title)
- M. Feroci** eXTP mission status and prospects (preliminary title)
- J. Tomsick** COSI mission status and prospects (preliminary title)
- R. Campana** The HERMES Pathfinder and SPIRIT constellation: design and development

### Instrumentation and missions for direct low-energy cosmic ray measurements in space

- F. M. Follega** CSES mission status and prospects (preliminary title)
- I. De Mitri** The Zirè instrument on board the NUSES mission
- T.B.D.** PAN mission status and prospects (preliminary title)
- B. Bergmann** Perspectives and instrumentation for low-energy cosmic rays (preliminary title)

### R&D of novel approaches and instruments for particle and high-energy radiation measurements in space

- F. Nozzoli** A pressurized Helium calorimeter for Antideuteron identification
- T.B.D.** Applications of MAPS in space (preliminary title)
- T.B.D.** Tracking detectors for X-rays (preliminary title)
- M. D. Da Rocha Rolo** Depleted monolithic sensors and very low power silicon front-end electronics (preliminary title)
- R. Iuppa** New technologies for superconducting magnets in space

