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## The fifth edition of "A scuola di Astroparticelle": a program involving research institutions, universities and schools.

*Friday, 16 September 2022 11:30 (15 minutes)*

Since 2016 "A scuola di Astroparticelle" is an outreach program conceived by the National Institute of Nuclear Physics (INFN –Napoli Unit) and, in the latest edition-the fifth, organized in collaboration with the Physics Department "Ettore Pancini" of the Federico II University in Napoli, CNR-SPIN, CNR-ISASI, CNR-INO Institutes and INAF astronomical observatory of Capodimonte to offer the possibility to the students of the High Secondary Schools to discover the modern physics. In 2018 the program became part of the national outreach project of INFN, OCRA - Outreach Cosmic Ray Activities –project with the aim of collecting into a common framework the numerous outreach activities in cosmic-ray field carried out at the local level.

In the last years, starting from 2018/2019 edition, the activities are proposed by the schools as part of the Italian Educational Progra, PCTO –"Percorsi per le Competenze Trasversali e per l'Orientamento" in a way that students have the possibilities to touch the experience of researcher work.

Topics covered range from open questions about the origins, structure, and evolution of the universe to environmental radioactivity, optics, nanotechnology, nuclear physics to technical aspects related to the development of particle detectors as well as gender in science. In particular the program offers projects related to the main experiments in cosmic ray, astroparticles physics and gravitational waves. Some activities are more theoretical, addressed to understand the science case of these experiments; other ones are most focused on experimental aspects, like the detection and the detectors developments. It is organized over several months during the school year to prepare a final event in which each school presents its work to the others with posters and presentations. A jury of experts at the end assign a prize to the best project, with the attention to gratify all the other participants.

This fifth edition (2021-2022) involved 14 schools in the Campania region with more than 300 students.

As an example here we present in detail the project related to the gravitational waves observation.

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