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Go to the astroparticle physics school with the Toledo Metro Station Totem-Telescope for cosmic rays

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Among the scientific divulgation activities of National Institute of Nuclear Physics of Naples (INFN-NA), the installation of the underground cosmic radiation telescope at the Toledo Metro Station in Naples in 2014 had a major impact on territory. The detector, consisting of 10 xy scintillator planes, read by SiPM, was developed by the National Laboratory of the Gran Sasso (LNGS), and installed together INFN-NA researchers and the Department of Physics of the Federico II University (DIPFIS-UNINA), in collaboration with Azienda Napoletana Mobilità (ANM). It allows observing the cosmic particles that reach 40 meters of depth in the Station through the LEDs that indicate the trajectory of the particles. At the end of September 2016, as part of Notte Europea dei Ricercatori, the telescope was upgraded with a multimedia Totem, provides videos on cosmic ray physics, as well as on the activities of INFN and other project partners. The initiative sees engaged INFN-NA, LNGS, DIPFIS-UNINA, ANM and Rotary International. An important aspect is the real-time analysis of Totem's telescope data, which allows the public to show the tracks of the muons. The accumulated data, transmitted to the Web site of INFN-NA, are accessible to the students for educational purposes. A competition was launched at High Secondary Schools, sponsored by Ufficio Scolastico Regionale (USR), with the aim of engaging teachers and students in astroparticle physics projects. The students, preparing their own elaborates as posters, computer presentations, artefacts and didactic experiments, will expose to the public during the 4 days of Futuro Remoto (May 25-28, 2017 <http://www.cittadellascienza.it/futuroremoto/2017>). The Totem and its connection to the Toledo telescope open new perspectives for communication and dissemination of scientific culture especially for the students through the technique of learning by doing, realizing and presenting the work created, also through the Alternanza Scuola-Lavoro.

Experimental Collaboration

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