



CERN Colloquium

SPEAKER: Luisa Cifarelli

TITLE: **Measuring cosmic ray showers up to the North Pole**

DATE: 26 Sep 2018, 16:30

PLACE: 500-1-001 - Main Auditorium

ABSTRACT

The Extreme Energy Events (EEE) experiment is meant to measure high-energy showers generated in the atmosphere by primary cosmic rays. The EEE apparatus is made of nearly 60 tracking and timing detectors distributed all over Italy, thus allowing to search for very long distance correlations between showers, up to 1200 km. The detectors, each made of three MRPCs of about 2 m² area, have been built at CERN by high school students. They are installed inside high school buildings, maintained and monitored by the students themselves. Every year, many hundreds of students are involved in the EEE project whose dissemination impact is indeed very important. This summer, PolarQuEEEst, a new and compact cosmic ray detector developed within the EEE project, has just taken the world's first measurements of sea level cosmic rays, reaching the unprecedented latitude of 82°07'N. The detector has circumnavigated the Svalbard archipelago on board of Nanuq, a specially designed sailing boat within the Polarquest2018 expedition. High school students have assembled at CERN 3 such PolarQuEEEst detectors based on layers of scintillator tiles coupled to Si PMs. One has been installed on board of Nanuq at its departure from North West Iceland in July 2018, while the other two in a Norwegian and Italian high school to allow simultaneous measurements up to high Arctic latitudes, searching also for unprecedented long distance coincidences. A photo exhibition organized by the Polarquest2018 expedition with the support of Allianz Suisse will be inaugurated just before the Colloquium in the mezzanine of building 500 at 4 pm.

Organised by: W. Lerche/TH-SP and P. Catapano/IR-ECO-APS.....
Tea and coffee will be served at 16h00