



Contribution ID: 1075

Type: **Poster Presentation**

A low-cost Cherenkov detector to be tested in CERN's T9 beam line

The TCO-Asa is a 2015 established team of high-school students of the Liceo Scientifico T. Calzecchi Onesti, in Fermo (Italy), who built a detector instrumented by consumer components including a CMOS camera and a silicon photomultiplier readout by the open-source ArduSiPM kit, to study the Cherenkov effect in water.

The proposed poster presents the main activities of the students that included the definition of the geometry of the detector, the realisation of the structure prepared by Scanny3D, the optimisation of the coupling between the water and the sensors, the experiences with 18F (prepared by Acom SRL) and 226Rd radioactive sources, and the results of the tests performed at the Beam Test Facility in INFN-Frascati in 2016.

The team proposed to expose the detector to a test beam at CERN in 2016 and in 2017 within the Beamline for School initiative. The project was assessed among the best in 2016, and won the competition in 2017. A test beam, with an improved detector, is planned in September 2017 at CERN, with the PS beam facility.

Experimental Collaboration

Primary author: FRANCAVILLA, Paolo (LPNHE and Institute Lagrange de Paris - ILP (FR))

Presenter: FRANCAVILLA, Paolo (LPNHE and Institute Lagrange de Paris - ILP (FR))

Session Classification: Poster session

Track Classification: Outreach, Education, and Diversity