

Development of a SiPM camera demonstrator for the Cherenkov Telescope Array observatory telescopes

Wednesday, May 24, 2017 2:00 PM (18 minutes)

The Cherenkov Telescope Array (CTA) Consortium is developing the new generation of ground observatories for the detection of very-high energy gamma-rays.

The Italian Institute of Nuclear Physics (INFN) is contributing to the R&D of a possible solution for the Cherenkov photon cameras based on Silicon Photomultiplier (SiPM) detectors sensitive to near ultraviolet energies, produced by Fondazione Bruno Kessler (FBK). The concept, mechanics and readout electronics for SiPM modules which could equip a possible upgrade for the focal plane camera of the pSCT telescope, prototype of a CTA medium size telescope with Schwarzschild-Couder optics, are currently being developed.

This contribution reviews the development, the assembly and the performances of 4x4 SiPM modules intended to equip the pSCT camera upgrade.

Primary author: VAGELLI, Valerio (INFN Perugia, Università degli Studi di Perugia)

Co-authors: BOIANO, Alfonso (INFN Napoli); RUGLIANCICH, Andrea (INFN Pisa); ARAMO, Carla (INFN Napoli); BONAVOLONTÀ, Carmela (INFN Napoli); DE LISIO, Corrado (INFN Napoli, Università degli Studi di Napoli); SIMONE, Daniela (INFN Bari); BISSALDI, Elisabetta (INFN Bari, Università e Politecnico di Bari); FIANDRINI, Emanuele (INFN Perugia, Università degli Studi di Perugia); GIORDANO, Francesco (INFN Bari, Università e Politecnico di Bari); AMBROSI, Giovanni (INFN Perugia); DI VENERE, Leonardo (INFN Bari, Università e Politecnico di Bari); IONICA, Maria (INFN Perugia); VALENTINO, Massimo (INFN Napoli, CNR-Spin Napoli); AMBROSIO, Michelangelo (INFN Napoli); GIGLIETTO, Nicola (INFN Bari, Università e Politecnico di Bari); PAOLETTI, Riccardo (INFN Pisa, Università di Siena); POSTOLACHE, Vasile (INFN Perugia); MASONE, Vincenzo (INFN Napoli)

Presenter: VAGELLI, Valerio (INFN Perugia, Università degli Studi di Perugia)

Session Classification: R4-Photon detectors(4)

Track Classification: Photon detectors