



Contribution ID: 1107

Type: **Poster**

Towards a configuration for the Southern Wide-field Gamma-ray Observatory (SWGGO) outer array

The Southern Wide-field Gamma-ray Observatory (SWGGO) is proposed as a next-generation ground-based water Cherenkov detector array designed to study Very to Ultra-High-Energy gamma rays. It will be located in the Atacama Astronomical Park in Chile, at 4770 m above sea level, with a direct view of the Galactic Center and ample coverage of the Southern Sky. The proposed SWGGO array will consist of an inner high fill-factor core ($>60\%$) and a sparse outer array ($< 5\%$ fill-factor) devoted to the detection and reconstruction of the highest energy events. Various choices for the water-Cherenkov detector units, photosensors, and electronics, together with the array layout, are being explored, aiming at a more cost-effective design for the sparse sector of the array. Rotomolded HDPE tanks are considered a viable alternative to the steel tanks employed in the core, and various photosensor unit designs and configurations are currently under evaluation. According to the ongoing optimization studies, the most promising options will be presented in this contribution.

Collaboration(s)

SWGGO Collaboration

Author: Prof. VALORE, Laura (INFN Sezione di Napoli and University of Napoli Federico II)

Presenter: Prof. VALORE, Laura (INFN Sezione di Napoli and University of Napoli Federico II)

Session Classification: PO-2

Track Classification: Gamma-Ray Astrophysics