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A Pathfinder for the Southern Wide Field Gamma-Ray Observatory (SWGO)

The Southern Wide-field Gamma-ray Observatory (SWGO) will be the first major wide-field instrument operating in the sub-TeV to PeV gamma-ray domain in the Southern Hemisphere. The primary site for SWGO is 'Pampa La Bola'at 4.8 km above sea level within the Atacama Astronomical Park in Chile. The observatory will be implemented as an array of water Cherenkov detectors: tanks containing pure water and photosensors. The first step towards the realisation of the observatory is the construction of a 'pathfinder.'The pathfinder will test the deployment and operation of two to three steel tanks of 5.2 m diameter with two optically separated detection layers, the baseline for the densely packed central array. In addition, two to three 3.6 m diameter rotomolded tanks with multi-PMT photosensor units will also be deployed to test this option for the outer (low fill factor) array. The pathfinder infrastructure will also include a field node for power distribution, triggering, and readout, which will serve >50 tanks in the final system, a prototype water purification system, and an atmospheric monitoring system. In this poster, I will present the status and plans for the SWGO Pathfinder and its role in preparing for further stages of SWGO implementation.

Collaboration(s)

SWGO

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