



Contribution ID : 63

Type : **key notes**

The Southern Wide Field Gamma-ray Observatory (SWGGO)

Friday, 17 December 2021 09:00 (30)

The Southern Wide Field Gamma Ray Observatory (SWGGO) is an international collaboration established in 2019 to plan and design a new wide field-of-view gamma-ray observatory in South America. The SWGGO will be a complementary instrument to the Cherenkov Telescope Array (CTA), and to large extensive air shower arrays such as HAWC (Mexico) and LHAASO (China). Once operational, it will be the first observatory of its kind in the Southern Hemisphere, working in the range from 0.1 TeV to PeV to scan the entire southern sky, including the Galactic Plane and Center, in search of PeVatron sources. With a continuous observational duty-cycle, SWGGO will also monitor the sky for extreme transients such as Gamma-ray Bursts and other astrophysical objects associated with multi-messenger events such as neutrinos and gravitational waves. In this contribution I will present in detail the proposal and plans currently under development for this future observatory, to be installed at an altitude of about 4.5 km in the Andes, and which has strong Latin-American involvement.

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Session Classification : keynotes

Track Classification : Astronomy and Cosmology