

The Southern Wide field-of-view Gamma-ray Observatory (SWGO)

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Very-high-energy gamma-rays are linked to high-energy phenomena in the Universe. The Southern Wide field-of-view Gamma-ray Observatory (SWGO) is a newly formed international collaboration to design and build a new observatory to be placed in the Andes at an altitude of around 5000 m. This observatory, being at the Southern hemisphere, would be able to monitor the galactic center, search for transient events, explore very extended emission regions and alert/follow-up on neutrino and gravitational wave detections as well as other photon observatories. SWGO is entirely complementary to the planned Cherenkov Telescope Array (CTA) that will be able to scrutinize astrophysical sources with unprecedented sensitivity. CTA has a limited field-of-view and low duty cycle which undermines its capabilities to observe transient phenomena such as Gamma-Ray Burst or flares from Active Galactic Nuclei.

In this presentation, I shall briefly discuss the physics potential of SWGO and some of the R&D options being explored to detect gamma-ray in a broad energy range (from 100 GeV to 100 TeV).

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