

Seminário: 19/03/2024, 14:00

Local: Auditório Méson Pi - DRCC

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Title: Future Developments in Ground-Based Gamma-ray Astronomy and the SWGO

Abstract: Ground-based gamma-ray astronomy is a powerful tool to study cosmic-ray physics, providing a diagnostic of the high-energy processes at work in the most extreme astrophysical accelerators of the universe. Ground-based gamma-ray detectors apply a number of experimental techniques to measure the products of air showers induced by the primary gamma-rays over a wide energy range, from about 30 GeV to few PeV. These are based either on the measurement of the atmospheric Cherenkov light induced by the air showers, or the direct detection of the shower's secondary particles at ground level. Thanks to the recent development of new and highly sensitive ground-based gamma-ray detectors, important scientific results are emerging which motivate new experimental proposals, at various stages of implementation. In this talk we will present the current expectations for future experiments in the field. Particular attention will be devoted to the Southern Wide-Field Gamma-ray Observatory (SWGO), an international project with Brazilian leadership, to build the most powerful wide-field gamma-ray observatory in the world, at the Andes.