Título: Status of the Cherenkov Telescope Array Project (CTA)   Coloquialista: Prof. Dr. Ulisses Barres de Almeida - Centro Brasileiro de Pesquisas Físicas - CBPF – RJ

Resumo:

Gamma-ray astronomy holds a great potential for astrophysics, particle physics, and cosmology. The CTA is an international initiative to build the next generation of ground-based gamma-ray observatories which will represent a factor of 5–10× improvement in the sensitivity of observations in the range 100 GeV–10 TeV, as well as an extension of the observational capabilities down to energies below 100 GeV and beyond 100 TeV. The array will consist of two telescope networks (one in the northern hemisphere and another in the south) so to achieve a full-sky coverage, and will be composed by a hybrid system of 4 different telescope types. It will operate as an observatory, granting open access to the community through calls for submission of proposals competing for observation time. The CTA will give us access to the non-thermal and high-energy universe at an unprecedented level, and will be one of the main instruments for high-energy astrophysics and astroparticle physics of the next 30 years. CTA has now entered its prototyping phase with the first, stand-alone instruments being built. Brazil is an active member of the CTA consortium, and the project is represented in Latin America also by Argentina, Mexico, and Chile. This year, the consortium has defined the sites for installation of CTA in the South and Northern hemispheres which will be hosted near Cerro Paranal in the Chilean Andes, and in the Canary Island of La Palma, respectively. The installation of CTA in Chile holds great potential for scientific and industrial as well as operational participation for Brazil and other South American countries. The first CTA telescopes should be installed on site during the next couple of yearsand the full CTA array is expected to be operational by 2022.

Data: Sexta-feira, 08 de abril de 2016, às 16h

Local: Auditório do Departamento de Física da UFPE.

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