

WST - the Wide-field Spectroscopic Telescope: surveying the Universe in the 2040's and beyond



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Are there valuable synergies between CTAO and WST?

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Very-high-energy (VHE) gamma-ray astroparticle physics is a relatively young field, and observations over the past decade have surprisingly revealed almost 250 VHE emitters which appear to act as cosmic particle accelerators. These sources are an important component of the Universe, influencing the evolution of stars and galaxies. At the same time, they also act as a probe of physics in the most extreme environments known - such as in supernova explosions, and around or after the merging of black holes and neutron stars. However, the existing experiments have provided exciting glimpses, but often falling short of supplying the full answer. A deeper understanding of the TeV sky requires a significant improvement in sensitivity at TeV energies, a wider energy coverage from tens of GeV to hundreds of TeV and a much better angular and energy resolution with respect to the currently running facilities. The next generation gamma-ray observatory, the Cherenkov Telescope Array Observatory (CTAO), is the answer to this need. In this talk I will present this upcoming facility, and its potential scientific exploitation. In particular, this contribution will highlight the scientific cases that could benefit from synergies with a large-field-of-view optical spectrograph.

Presenter: ZANIN, Roberta (Istituto Nazionale di Astrofisica (INAF))

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