

AtmoHEAD 2014:
 Atmospheric Monitoring for High Energy AstroParticle Detectors



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Pilot study of ultra-high energy COsmic rays through their Space-ATmospheric interactions - COSAT

One hundred years after the discovery of cosmic rays, the study of charged ultra-high energy cosmic rays remains a vital activity in fundamental physics.

While primary cosmic rays could not be measured directly until it was possible to get the detectors highly in the atmosphere using balloons or spacecraft, nowadays very energetic cosmic rays are detected indirectly by ground-based experiments measuring their EAS induced Cherenkov, fluorescent light, or radio waves. Moreover, all cosmic ray measurements (performed either from space or ground) rely on accurate understandings of atmospheric phenomena.

The concept of the COSAT project is the inter-link between Astroparticle Physics, Remote Sensing and Atmospheric Environment, willing to investigate the energetic cosmic rays physical processes using the atmosphere as a detector, to identify potential scientific niches in the field of space sciences and prepare to participate to the ESA's Programs (e.g. Science, Earth Observation).

A short introduction on current status and perspectives of the national partnership COSAT project will be given in a poster presentation.

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