

ASTROPHYSICS SEMINAR

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Remote sensing of clouds with cosmic rays

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Abstract. The optical properties of clouds is important in a wide range of scientific topics, from meteorology and climate science to astronomical observations. In particular, the presence of clouds perturbs the observation of very-high energy gamma-rays by Air Imaging Cherenkov Telescopes (IACT). Currently, the most common equipment for atmosphere exploration is a laser beam set, called LIDAR (Light Detection And Ranging). We propose here that the Cherenkov light, produced by the cosmic rays particles penetrating into the Earth atmosphere and detected with the IACT or an air fluorescence telescope constitute itself a powerful tool for the remote sensing of clouds, complementing the LIDAR. Time-imaging of the clouds on sufficient time periods together with light curve measuring for the reflected and transmitted light, can be used for determining the multiple scattering parameters of the cloud.

Additional Information

The seminars are given in the ISDC "Pavillon" building
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