

Applying H.E.S.S. Lidar profiles on Crab Nebula data and their impact

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The H.E.S.S. experiment in Namibia, Africa, is a high energy gamma ray telescope sensitive in the energy range from 100 GeV to a few tens of TeV, that uses the atmospheric Cherenkov technique to detect showers developed within the atmosphere. To minimize the systematic errors on the derived fluxes and energy dependencies of the measured sources, using a Lidar one can calculate the impact of the atmospheric properties, in particular the extinction parameter of the Cherenkov light (300–650 nm). This has a direct impact on the above estimations. In this paper we report on physics results obtained using measured spectra of the Crab nebula using Lidar profiles obtained at the H.E.S.S. site. A brief extrapolation also on the performance of the future CTA project and the use of Lidars are also given.

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