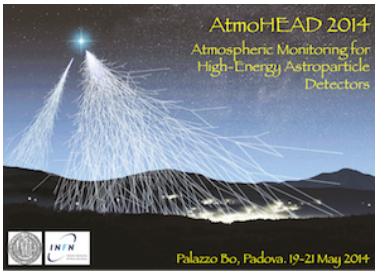

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Atmospheric monitoring in H.E.S.S.

Tuesday, 20 May 2014 09:30 (30 minutes)

Instruments applying the IACT method, such as H.E.S.S. (High Energy Stereoscopic System), observe VHE (very high energy, E>100GeV) photons indirectly, using the Earth's atmosphere as a calorimeter. In the H.E.S.S. data reconstruction, the properties of this component are estimated by Monte Carlo simulations of a yearly averaged atmosphere density profile. Deviations of the real atmospheric conditions from this assumed atmospheric model will result in a biased reconstruction of the primary gamma-ray energy and thus the resulting source spectrum. In order to keep the corresponding systematic effects to a minimum, H.E.S.S. operates a set of atmosphering monitoring devices that allows it to characterise the atmospheric conditions during data taking. This information in turn is then used in data selection. Here, a short overview with respect to their usage during source observation and a posteriori analysis data selection will be presented.

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