AtmoHEAD: Atmospheric Monitoring for High-Energy Astroparticle Detectors



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Elve observation with the Fluorescence Detectors of the Pierre Auger Observatory

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The elves are transient luminous events triggered by cloud-to-ground lightning return strokes. These events appear as rapidly expanding rings along the lower boundary of the ionosphere, on timescales of the order of 1 ms. The Fluorescence Detectors of the Pierre Auger Observatory can provide 3D imaging of elves with an unprecedented resolution. A dedicated trigger has been designed based on 60 elve candidates, recorded by chance as part of a prescaled sample (1 in a 100) of minimum bias events that did not contain usable air shower data. In this contribution a detailed description of the trigger, and an analysis of the first events collected is presented.

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