

Influence of cloud altitude and optical depth on CTA-N performance

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The Northern hemisphere site of the Cherenkov Telescope Array (CTA-N) will be placed at the Observatorio del Roque de Los Muchachos (La Palma, Canary Islands, Spain) at the altitude of 2200m above the sea level. In order to obtain a global understanding of the performance of the telescopes under different atmospheric conditions above the observatory, a preliminary study has been performed. Simulations of the atmosphere calculated using MODTRAN for different cloud optical depths and altitudes have been included in the Monte Carlo simulations of the array in order to obtain the Instrument Response Functions (IRFs). CTA-N performance parameters such as sensitivity, angular and energy resolution, and their dependence on different cloud and atmospheric conditions will be shown.

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