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## Depth of maximum of air-shower profiles: testing the compatibility of measurements performed at the Pierre Auger Observatory and the Telescope Array experiment

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At the Pierre Auger Observatory and the Telescope Array (TA) experiment the measurements of depths of maximum of air-shower profiles,  $X_{\max}$ , are performed using direct observations of the longitudinal development of showers with the help of the fluorescence telescopes. Though the same detection technique is used by both experiments, the straightforward comparison of the characteristics of the measured  $X_{\max}$  distributions is not possible due to the different approaches to the analysis of the recorded events. In this work, the Auger-TA Composition Working Group presents a technique to compare the  $X_{\max}$  measurements from the Auger Observatory and TA. Using this technique the compatibility of the measured  $X_{\max}$  distributions and of their first two moments is tested for energies  $E > 10^{18.2}$  eV. The results of the tests show that the characteristics of the  $X_{\max}$  distributions recorded by the Auger Observatory and TA are compatible within the systematic and statistical uncertainties.

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