## **Ultra High Energy Cosmic Rays 2018**



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## Air Shower Structure measured with the Telescope Array Surface Detectors

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Telescope Array constructed in Utah USA is a largest air shower observatory in the northern hemisphere aiming at clarifying the origin of UHECRs. In order for better understandings of the air shower phenomenon we report a study on the distribution of arriving signals measured with FADC of the TA Surface detector we use 10 years TA SD data to examine which include delay time to shower front plane and the thickness of the disk of particles. The analysis method consists in selecting data sample extending range from 7.08 to over 100 EeV with a minimal bias and systematics uncertainties to observe a correlation between thickness and the distance of shower axis to each SD which have dependance on signal distribution such as electromagnetic or muonic component, impact parameter, energy, and its effect such as zenith and azimuthal angle along the plane of an EAS.

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