

Development of the Cosmic Ray Air Fluorescence Fresnel lens Telescope for a next generation UHECR observatory

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In near future, it is expected that sources of ultra-high-energy cosmic rays (UHECRs) can be identified, because the Telescope Array experiment reported that there is a Hotspot in the UHECR arrival direction. However, it is required to observe UHECRs with higher statistics. Moreover, the mass composition should be determined, which is important information for anisotropy study. Then, we should extend the scale of observatory with fluorescence telescopes which can observe X_{\max} , but they cost more than particle detectors at the ground.

In order to reduce the cost, we are developing the Cosmic Ray Air Fluorescence Fresnel lens Telescope (CRAFFT) which is a simple structure fluorescence telescope consisting of a plastic Fresnel lens of 1 m² and a 8 inch PMT.

In this presentation, we will report the current status of development and test observation.

Presentation type

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