

Progress and future prospect of the CRAFFT project for the next generation UHECR observatory

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The next generation of ultra-high energy cosmic ray observations will require large detector arrays to achieve large statistics. In order to realize next-generation large-scale detector arrays, the Cosmic Ray Air Fluorescence Fresnel lens Telescope (CRAFFT) project is developing a low-cost simple fluorescence detector (FD). The simple structure of the CRAFFT detector will reduce the cost to about 1/10 of the current FD. We also aim to realize a fully automated observation system. A prototype of the CRAFFT detector has been successfully used to detect cosmic ray air showers. Since the spatial resolution of the simple FD is rougher than that of the current FD, we are developing a new air shower reconstruction method using the waveform fitting method. In this presentation, we will report the performance of the CRAFFT detector, detector optimization, and future prospect.

Primary author: Prof. TAMEDA, Yuichiro (Osaka Electro-Communication University)

Co-authors: Dr TOMIDA, Takayuki (Shinshu University); Dr IKEDA, Daisuke (Kanagawa University); Dr YAMAZAKI, Katsuya (Chubu University); Mr KUBOTA, Yuto (Shinshu University); Mr NAKAMURA, Yuya (Shinshu University); Mr ISHIMOTO, Yasuki (Osaka Electro-Communication University); Mr KATAYAMA, Tomoki (Osaka Electro-Communication University); Mr KOBAYASHI, Yuga (Osaka Electro-Communication University); Mr SHIBATA, Norimichi (Osaka Electro-Communication University); Mr NISHIO, Eiji (Osaka Electro-Communication University); Mr MURAKAMI, Miyato (Osaka Electro-Communication University)

Presenter: Prof. TAMEDA, Yuichiro (Osaka Electro-Communication University)