Contribution ID: **43** Type: **Parallel session talk**

Development and Design of New Detector of Unusual Cosmic-ray casKades

Thursday 18 July 2024 09:20 (15 minutes)

A large mystery that is currently being investigated by the High Energy Physics (HEP) field is the origin and the nature of the Ultra-high energy Cosmic Rays (UHECR). Coming from deep within the Universe, they bring information from afar as well as on possible new physics. This talk reports on the development and design of DUCK (Detector system of Unusual Cosmic-ray casKades), a new cosmic-rays detector at the Clayton State University campus with ns-level detection resolution. The main scientific importance for the DUCK project will be to contribute to the general EAS event analysis methodology novel approach using the full waveform and detector response width, and to an independent verification of the detection of the 'unusual' cosmic ray events by the Horizon-T detector system that may be indicating direction towards the novel physics possibilities.

Alternate track

1. Astro-particle Physics and Cosmology

I read the instructions above

Yes

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Session Classification: Astro-particle Physics and Cosmology

Track Classification: 08. Astro-particle Physics and Cosmology