

# **Analysis of TAx4 hybrid trigger and events**

For ICRC 2021 executive summary (ID 741)

S.W. KIM

on behalf of the Telescope Array Collaboration

# Analysis of TAx4 hybrid trigger and events

S.W. Kim<sup>1</sup> on behalf of the Telescope Array Collaboration

<sup>1</sup> Department of Physics, Sungkyunkwan University, Jang-an-gu, Suwon, Republic of Korea



## \* Executive summary

### 1. What is this contribution about?

By hybrid trigger from FD, we increase the collection efficiency of ultra-high-energy cosmic-ray (UHECR) events observed simultaneously by the TAx4 fluorescence detector (FD) and surface detector (SD), which is called hybrid events, by hybrid trigger from FD.

### 2. Why is it relevant / interesting?

We perform  $X_{max}$  measurement improvement and energy calibration using increased statistics of hybrid events using hybrid trigger, recovering SD data that are not self-triggered by SD alone.

### 3. What have we done?

We installed hybrid trigger system for TAx4.

### 4. What is the result?

We are collecting UHECR events with hybrid trigger and have successfully reconstructed them.