Contribution ID: **36** Type: **not specified**

Introducing TAXI: A Transportable Array for eXtremely large area Instrumentation studies

Wednesday, 11 June 2014 12:10 (20 minutes)

A challenge that is common to many experiments in high-energy astroparticle physics is the need for sparse instrumentation in areas of 100 km2 and above, often in remote and harsh environments. All these arrays have similar requirements for read-out and communication, power generation and distribution, and synchronization. Within the TAXI project we are developing a transportable, modular four-station test-array that allows us to study different approaches to solve the aforementioned problems in the laboratory and in the field. Well-defined interfaces will provide easy interchange of the components to be tested and easy transport and setup will allow in-situ testing at different sites. Every station consists of three well-understood 1 m2 scintillation detectors with nanosecond time resolution, which provide an air shower trigger. An analog sensor, currently a radio antenna for air shower detection in the 100 MHz band, is connected for testing and calibration purposes. We introduce the TAXI project and report the status and performance of the first TAXI station deployed at the Zeuthen site of DESY.

Primary author: KARG, Timo (DESY)

Co-authors: Dr HAUNGS, Andreas (KIT); KLEIFGES, Matthias (KIT); NAHNHAUER, Rolf (DESY)

Presenter: KARG, Timo (DESY)

Session Classification: Weds AM II

Track Classification: Weds AM II - Air Shower Detail