

Compact imaging air Cherenkov telescopes as an additional component for large astro particle detectors like IceCube and HAWC

Tuesday, 9 May 2017 16:48 (18 minutes)

Imaging air Cherenkov telescopes (IACTs) are detecting the Cherenkov light of gamma-ray and cosmic-ray induced showers in the atmosphere. This light may add valuable information to large volume cosmic ray and gamma ray detectors like HAWC or IceCube-Gen2. For IceCube IACTs could work as an efficient veto for atmospheric neutrinos in the Southern Hemisphere and could also be used in combination with the surface component of IceCube, IceTop, to improve the capabilities to measure the composition of the CR spectrum. With HAWC small IACTs could provide an additional measurement of the primary particle energy and particle ID to improve the signal to background ratio. Therefore small IACTs specialized to work in harsh environments are under development. We will present the progress and future plans with these IACTs together with first data of an IACT prototype in coincidence with IceCube.

Primary author: AUFFENBERG, Jan (o=rwth,ou=Institutions,dc=icecube,dc=wisc,dc=edu)

Co-authors: Prof. WIEBUSCH, Christopher (o=rwth,ou=Institutions,dc=icecube,dc=wisc,dc=edu); Prof. BRETZ, Thomas (RWTH Aachen University)

Presenter: AUFFENBERG, Jan (o=rwth,ou=Institutions,dc=icecube,dc=wisc,dc=edu)

Session Classification: Cosmic Rays

Track Classification: Cosmic Rays - Convenor: Andreas Haungs, KIT