



Contribution ID: 248

Type: **Poster presentation**

White Rabbit based sub-nsec time synchronization, time stamping and triggering in distributed large scale astroparticle physics experiments

Tuesday 7 June 2016 15:00 (1h 30m)

Time-Synchronization to sub-nsec precision between detector subsystems in large scale astroparticle physics experiments can efficiently be provided by White-Rabbit (WR), a new ethernet-based technology for time and frequency transfer.

We discuss principles and advantages of WR for distributed detector arrays, which allows clock-synchronziation and trigger-time stamping at sub-nanosecond precision; as well as for complex and flexible topological trigger strategies, based on ethernet-routed timestamps.

We describe a White-Rabbit implementation at the Gamma-Ray facility HiSCORE (Siberia) for airshower reconstruction; and first experience with the next generation Zynq-based WR-ZEN platform.

Author: BRÜCKNER, Martin (Paul Scherrer Institut)

Co-author: Dr WISCHNEWSKI, Ralf (DESY)

Presenter: BRÜCKNER, Martin (Paul Scherrer Institut)

Session Classification: Poster session 1

Track Classification: Real Time System Architectures and Intelligent Signal Processing