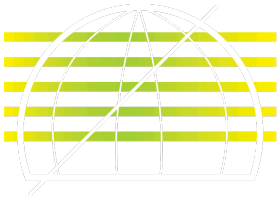

Contribution ID: **43** Type: **Oral**

The reflection readout method of RPC

Thursday 29 September 2022 11:00 (20 minutes)

The conventional readout method of the RPC detector uses two sets of orthogonal readout strips placed at the both sides of the gas gap to collect signals of opposite polarities to obtain space points. A new readout method utilizing the reflection signal is proposed which only requires one set of readout strips. The reflection readout method utilizes the differences in the arrival times of the direct and reflected signals to determine the hit position. Customized transmission cables are introduced to extend the propagation distance of reflected signals to ensure sufficient separation of the two signals. Because only one side of the readout panel is connected to the FE boards, reflection readout method could reduce the readout channels and simplify the RPC structure. Experimental setup and test results of this novel readout method will be presented.

Author: DING, Yuexin (University of Science and Technology of China (CN))

Co-authors: XIE, Xiangyu; HAN, Kunlin; SUN, Yongjie

Presenter: DING, Yuexin (University of Science and Technology of China (CN))

Session Classification: Detector electronics and simulation