

The FAZIA telescope: from detectors to data flow

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FAZIA is a modern apparatus based on Si-Si-CsI(Tl) telescopes designed to have excellent particle identification capabilities with relatively low energy thresholds and high efficiency. In order to get low thresholds, pulse shape discrimination of digitized signals will be applied to the first telescope stage. To achieve the desired goals, besides the use of carefully designed and selected detectors, a state-of-the-art digitizing front-end electronics is mandatory. Compact and integrated front-end cards are used to implement many functions just next to the telescopes, under vacuum. Moreover, digital signal processing techniques are used to extract every possible information from signal shapes. Such an advanced front-end electronics is accompanied with a modern acquisition system to reconstruct the event and to handle high data throughput. In my contribution I will review the operation and the performance of a typical FAZIA module from the detectors to the data transport, featuring a fast optical link to the acquisition electronics. I'll focus on the characteristics which make FAZIA a cutting-edge apparatus in the panorama of heavy-ions experiments with stable and radioactive beams.

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