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## Design, construction and characterization of a three channel of cosmic ray detector

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Cosmic rays are particles generated by astrophysical sources, which currently are studied for their physical properties. Cosmic rays research can be used to improve technology, for instance, spectroscopy for material identification. A three-channel detector was built using three photo-multipliers, two scintillation plastic and several common materials, water, air, oil, aluminum, and others, to scan. They were allocated in vertical position, where material to scan channel is between scintillation plastics channels in order to validate the signal and study the interaction of cosmic rays with the different materials. Details of characterization, operation and some preliminary physical results are reported.

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