Velocity measurement of cosmic muons using INO RPC detector stack

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The India-based Neutrino Observatory (INO) collaboration is planning to build a glass RPC based magnetised iron calorimeter (ICAL). A prototype detector stack comprising of 12 RPCs of 1m x 1m in area is setup to track cosmic ray muons. In order to demonstrate its capability to distinguish between up-going and down-going particles, we measured the velocity of the cosmic muons recorded in this stack. We describe in this paper the detector setup, measurement procedure, calibration and results obtained.

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