A SYSTEMATIC STUDY OF THE ARGO EXPERIMENT
FRONT-END ELECTRONICS

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The Front-End Electronics performing the ARGO RPCs readout is a full custom GaAs circuit. Its global function is to amplify, discriminate and convert to ECL standard the detector signals. It is based on a three stage voltage amplifier and on a comparator with variable threshold, fully implemented in a single eight channels IC, mounted on a board installed inside the detector Faraday cage. About 19000 FE boards are foreseen for the experiment. We describe here a systematic test devoted to check the dynamic functionality of each single channel. A fixed input signal from a generator, simulating the detector, is injected into each channel. The output is studied as a function of the comparator threshold. This method allows to measure all relevant electronics parameters and to build up a complete database for the experiment. The statistical results from more than 20000 analyzed channels are presented.