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Construction of a technological semi-digital hadronic calorimeter

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The Calice collaboration is building a technological prototype of a new kind of high-granularity hadronic calorimeter using large GRPCs read out with a semi-digital power-gated electronics. The prototype of 1 cubic meter intends to confirm the results obtained with the calice digital HCAL and address the integration problems to be met in the ILC future experiments.

The prototype will be made of more than 40 detectors and their embedded electronics assembled in a stainless steel cassettes. The cassettes will be inserted in a self-supporting and non magnetic mechanical structure. Services are conceived to mimic as much as possible those of the future experiments.

A new acquisition system is also to be used in the new prototype. It will allow higher acquisition rate. Validation tests of the different construction steps will be presented and results obtained with the constructed units will be shown as well as the preparation of test beams.

Author: Prof. LAKTINEH, imad (ipn LYON) Presenter: Prof. LAKTINEH, imad (ipn LYON) Session Classification: Calorimetry

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