Contribution ID: **30** Type: **Oral**

HARDROC, HAdronic Rpc Detector ReadOut Chip

Wednesday, 5 September 2007 15:05 (25 minutes)

HARDROC is a complete readout chip in SiGe 0.35µm of the RPCs or GEMs foreseen for a Digital HAdronic CALorimeter (DHCAL) at the ILC. The ASIC integrates 64 channels of
• fast low impedance preamplifier with 6bits variable gain (tunable between 0 and 4)
• variable shaper (50-150ns) and Track and Hold to provide a multiplexed analog charge output up to 10pC.
• variable gain fast shaper (15ns) followed by two low offset discriminators to autotrigg down to10 fC. The thresholds are loaded by two internal 10 bit- DACs.
• A 128 deep digital memory to store the 2*64 discriminator outputs and bunch crossing identification coded over 24 bits counter.
The design and measured performance of the chip will be presented.

Primary author: Mrs SEGUIN-MOREAU, Nathalie (IN2P3/LAL ORSAY)

Co-authors: Mr DE LA TAILLE, Christophe (IN2P3/LAL ORSAY); Mr JAUFFRET, Clement (IN2P3/LLR Palaiseau); Mrs MARTIN-CHASSARD, Gisele (IN2P3/LAL ORSAY); Mr MATHEZ, Herve (IN2P3/IPNL Lyon); Mr LAKTINEH, Imad (IN2P3/IPNL Lyon); Mr BRIENT, Jean-Claude (IN2P3/LLR Palaiseau); Mr BOUCHEL, Michel (IN2P3/LAL ORSAY); Mr GAGLIONE, Renaud (IN2P3/IPNL Lyon)

Presenter: Mr DE LA TAILLE, Christophe (IN2P3/LAL ORSAY)

Session Classification: Parallel session B5 - ASICs 2 ILC