Contribution ID: **48** Type: **Oral presentation using Zoom**

A new (Very) Front-End Board for the ILD SiW-ECAL

Wednesday, 27 October 2021 16:20 (20 minutes)

The Silicon-Tungsten ECAL (SiW-ECAL) of ILD will require about 10,000 detector slabs of 1.4 to 1,8 m in length. For the ease of building and testing, the slabs are made of stitched detector elements of 18×18 cm², composed of a Front-End Board (FEB), hosting the readout ASICs for 1024 channels, on which the Silicon sensors are glued.
Various types of detector elements have been successfully tested individually; the first attempt to chain them into a long slab in 2018, while globally positive, hinted at some improvements.
As its predecessor, the new FEB will handle 16 SKIROC 2A chips, amplifying, shaping, pipelining and digitizing the data generated by collisions at the International Linear Collider ILC, taking advantage of its pulsed operations to reduce the power dissipation.
This presentation describes the FEB design, adapted for long slabs composed of up to 10 FEB, to perform power supply distribution (now locally pulsed), local high voltage distribution (to reduce intervention and handling).
Also, will be show preliminary results on power supply, slow control and leackage current measurements on 1 to 5 FEB chained.

1st preferred time slot for your oral presentation

15:30-17:30 JST (8:30-10:30 CEST, 2:30-4:30 EDT, 23:30-1:30 PDT)

2nd preferred time slot for your oral presentation

19:00-21:00 JST (12:00-14:00 CEST, 6:00-8:00 EDT, 3:00-5:00 PDT)

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Track Classification: Parallel sessions: Detectors: Session B: Calorimeters