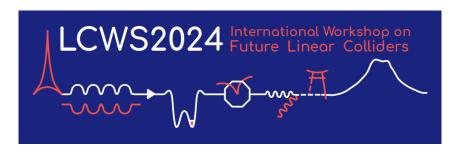
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Addressing technological challenges on sensor-electronics hybridization for compact silicon tungsten electromagnetic calorimeters.

Tuesday 9 July 2024 09:00 (30 minutes)

Highly compact and granular sandwich silicon tungsten calorimeters are part of the detector concepts proposed for all future Higgs Factories and for strong-field-QED (LUXE) or Dark Matter search experiments. This contribution discusses some of the technological challenges of sensor-electronics hybridization for this type of calorimeters. Different alternatives have been explored and used in the past, e.g. tab-bonding and epoxy-silver glue dots, with limited success. A joint R&D effort by different groups to study this technology's long-term viability. It comprises ageing studies, careful monitoring of PCB mechanical properties, the validation of different industrial choices for the epoxy-silver product and the optimization/automation of the process by different institutes. The challenges and status of these activities are discussed in this contribution.

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