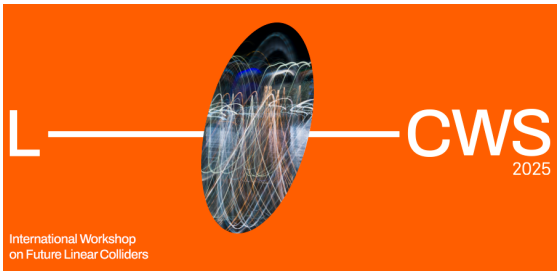

Contribution ID: **132** Type: **Talk**

Higgs Factory Digital MAPS Electromagnetic Calorimeter (remote)

Wednesday 22 October 2025 10:00 (20 minutes)

The future Higgs Factory collider will provide unprecedented precision to significantly sharpen measurements and understanding of the Higgs boson. An attractive capability could come from using monolithic active pixel sensors (MAPS). A MAPS prototype program is developing sensors with tracking performance as first priority; implementation for the electromagnetic calorimeter (ECal) is a straight forward simplification. It would offer extremely high granularity with very thin sampling to preserve Moliere radius, provide good time resolution, and create only small dead regions. The issues being addressed include cooling and power dissipation, power pulsing, multiple thresholds, bit depth, stitching, and mechanical design. The linear collider environment provides excellent properties to enable an optimal application, and has been integrated into the updated SiD concept. Progress on these issues and others will be discussed.

Author: BRAU, Jim (University of Oregon (US))

Co-authors: VERNIERI, Caterina (SLAC National Accelerator Laboratory (US)); ROTA, Lorenzo; BREIDENBACH, Martin (SLAC)

Presenter: BRAU, Jim (University of Oregon (US))

Session Classification: Calorimetry + PID

Track Classification: Detector: Calorimetry + PID