

## Fourth MODE Workshop on Differentiable Programming for Experiment Design



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### Identification of Particle Tracks in CMS with Neuromorphic Computing

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Using a spiking neural network and a modeling of the silicon tracker for the CMS upgraded detector, we demonstrate the unsupervised learning application of identification of charged particle tracks in presence of background, and characterize the detection efficiency, fake rate, and differentiation of output signals for particles of different momenta and charge.

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