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Calorimeter R&D for Higgs Factories - Inspiration for LHC Upgrades

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The proposal of energy-frontier electron-positron colliders, now referred to as Higgs Factories, has triggered a broad R&D program to establish detector technologies required to fully exploit the physics capability of such a facility. One such example is highly granular calorimetry, which has been developed by the CALICE collaboration over the last two decades, and forms the central element of several detector concepts for future facilities. This technology has also been adopted for the CMS Phase II endcap calorimeter upgrade, the HGCAL. I will discuss the physics motivation for the development of highly granular calorimeters, summarize key steps towards the establishment of the technology as a viable solution for collider detectors, and discuss the challenges in transferring it from lepton colliders to LHC.

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