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The Next Generation of Crystal Detectors for Future HEP Calorimetry

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Precision calorimeters consisting of inorganic crystal scintillators have been playing an important role in the experimental high energy physics (HEP) experiments. In the last two decades, it faces challenges of the hostile radiation environment expected at the HL-LHC, the unprecedented event rate expected at accelerator based rare process search experiments and the low cost required by the homogeneous hadron calorimeter concept. This paper reports current status of crystal detectors and candidate crystals for future HEP calorimeters to be operated in the next decades.

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