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Fast and Radiation Hard Inorganic Scintillators for Future HEP Experiments

Tuesday, May 25, 2021 5:00 AM (18 minutes)

Future HEP experiments at the energy and intensity frontiers require fast and ultrafast inorganic scintillators with excellent radiation hardness to face the challenges of unprecedented event rate and severe radiation environment. We report recent progress in fast and ultrafast inorganic scintillators for future HEP experiments. Examples are LYSO crystals and LuAG ceramics for an ultra-compact shashlik sampling calorimeter for the HL-LHC and the proposed FCC-hh, and yttrium doped BaF2 crystals for the proposed Mu2e-II experiment. Applications for Gigahertz hard X-ray imaging will also be discussed.

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