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The MATHUSLA detector: exploring the Lifetime Frontier and Cosmic Ray Physics

Thursday 10 August 2017 16:30 (15 minutes)

I will introduce the MATHUSLA proposal (Massive Timing Hodoscope for Ultra-Stable neutraL pArticles) for a ˜200mx200m tracker above ATLAS or CMS at the HL-LHC. Its primary purpose is the search for exotic long-lived particles with lifetimes up to the BBN bound of ˜ 0.1 seconds, where it would extend LHC sensitivity by orders of magnitude. In addition, the design and position of MATHUSLA close to the LHC main detectors may enable it to perform unique cosmic ray measurements. I will present some possible aspects of this cosmic ray physics program, while also soliciting input from the broader community.

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