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High-resolution gas TPCs for next-generation intensity frontier tracking

Thursday, 9 November 2023 14:00 (15 minutes)

In the next decade, intensity frontier experiments will require tracking systems that are robust against high event and background rates while maintaining excellent tracking performance. I will discuss the first conceptual design of a tracking system for a hypothetical future experiment—imagined as an upgrade of or successor to Belle II—built around a gas time projection chamber with high-resolution readout. At sufficiently high event rates continuous readout is mandatory, necessitating charge amplification and readout that is continuous and ungated, without degrading track parameter measurement resolution. This capability is achievable using existing—but still quite young and underutilized—integrated grid technology

Early Career

Presenter: LEWIS, Peter (University of Hawaii)

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