



Contribution ID: 48

Type: **Oral**

## **CODEX-b: a novel detector to probe the dark sector at the HL-LHC**

*Friday 30 September 2022 09:00 (20 minutes)*

The High Luminosity LHC will be a tremendous opportunity to search for long lived particles (LLPs) from an extended hidden/dark sector, feebly connected to the known SM sector. Such LLP searches will require special detectors, placed far away from the proton-proton collision point and shielded against SM backgrounds. The CODEX-b detector, to be placed behind a thick shielding wall inside the LHCb cavern, around 25m from the LHCb interaction point, provides a novel solution. A crucial aspect is the detector technology that can provide good resolutions in both tracking ( $\sim$ mm) and timing ( $\sim$ 100ps), and be inexpensive to cover large volumes. RPCs are very attractive for this purpose. This talk will give an overview of the CODEX-b proposal and describe the ongoing and future R&D towards its construction.

**Primary author:** DEY, Biplab (Eotvos U.)

**Presenter:** DEY, Biplab (Eotvos U.)

**Session Classification:** New experiments