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Dark sector searches with skipper-CCDs: current status and future ideas

Tuesday, 7 November 2023 16:00 (15 minutes)

Skipper-CCDs, with their electron-counting capability, are among the leading technologies in the exploration of the dark sector, with g-size experiments imposing stringent limits on dark sector - standard model particle interactions. In this talk, I will summarize the current status of Oscura, the first massive (10 kg) skipper-CCD array aiming to search for sub-GeV dark matter. I will also discuss the capability of this technology to explore the dark sector at accelerator facilities, particularly showing sensitivities to beam-produced millicharged particles. Finally, I will discuss future ideas to enhance dark sector searches, including the development of fast readout sensors with single electron resolution.

Early Career

Yes

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