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Novel Applications of Superconducting Nanowire Detectors in Nuclear Physics

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We report ongoing efforts in developing superconducting nanowire single photon detectors (SNSPDs) for nuclear and particle physics applications. SNSPDs offer unique set of capabilities which are well suited for accelerator facilities with significant cryogenic infrastructure to support operation of superconducting magnets. We will give an overview of targeted applications which leverage new modes of instrumentation at the Electron-Ion Collider and Jefferson Lab. We will report on a new liquid helium active target concept under development for high luminosity fixed target experiments at Jefferson Lab in Hall-C and the SoLID detector.

Early Career

Yes

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