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Superconducting Nanowire Single Photon Detectors

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Superconducting Nanowire Single Photon Detectors (SNSPDs) are world-leading detectors for time-resolved single photon counting from the UV to the infrared. We will survey the latest progress in the field of SNSPDs, and discuss recent progress as a community in reducing the energy threshold (as low as 70 meV), increasing the active area (to the 1 mm² scale and beyond), and reducing the dark counts (below 10⁻⁵ counts per second). We will discuss the prospects to infuse SNSPDs into future experiments to search for dark matter and probe fundamental physics.

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