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Detecting Dark Matter Induced Power in Quantum Devices

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Quantum devices with ultrahigh sensitivities are being designed for various purposes ranging from developing quantum computers to building powerful telescopes. Typically, they use the sharp transition between superconducting and normal states of matter to detect small energy deposition. Such devices have also been used in direct detection experiments for light dark matter. I will talk about a new way of looking for dark matter signals using power measurements in these devices. I will describe how new constraints are set in the mass range 1 MeV to 10 GeV for galactic halo dark matter, as well as for thermalized dark matter near the Earth's surface that can arise in strongly interacting models.

Submitted on behalf of a Collaboration?

No

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