Contribution ID: **546** Type: **Parallel session talk**

# Design of keV-scale neutron sources using Fe and Sc

*Tuesday, May 25, 2021 7:30 AM (18 minutes)*

We will discuss recent progress in making sub-keV nuclear recoil calibrations practical in a university lab environment. First, we will describe a 124SbBe (gamma,n) neutron source in which a novel Fe shielding method suppresses the outgoing gamma flux while allowing the unmoderated escape of the 24keV neutrons. Second, we will describe a method to moderate and then filter neutrons from a pulsed Deuterium-Tritium (DT) generator, enabling a pulsed keV-scale neutron source. And lastly, we will describe work towards large area neutron capture-based backing detectors required for a neutron scattering calibration of dark matter experiment targets.

## TIPP2020 abstract resubmission?

No, this is an entirely new submission.

## Funding information

**Primary author:** PATEL, Pratyush (University of Massachusetts Amherst)

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**Session Classification:** Experiments: Dark Matter Detectors

**Track Classification:** Experiments: Experiments: Dark Matter Detectors