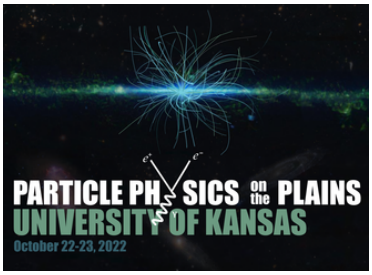

Contribution ID: **50** Type: **not specified**

Inelastic dark matter nucleus scattering in stopped pion experiment

Saturday 22 October 2022 16:45 (20 minutes)

We study inelastic dark matter-nucleus scattering in stopped pion experiments by nuclear shell model. We find that the inelastic scattering is dominated by Gamow-Teller (GT) transition. Nuclear shell model code, BIGSTICK, calculates GT transitions and the deexcitation photons for the nuclei such as Na23, Ar40, and I127. Given the experiment setup (COHERENT for example) we can estimate event rate of the scattering. Therefore we can probe new regions of DM parameter space with the photon spectrum.

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