Abstract Submitted
for the APR18 Meeting of
The American Physical Society

Direct Detection of Dark Matter as Three-Body Bound States HERSHDEEP SINGH, ARMAN MARGARYAN, THOMAS MEHEN, Duke University — We consider the possibility of dark matter consisting of strongly interacting particles with universal short-range interactions. It is known that such particles can form three-body bound states, and we consider a scenario in which dark matter consists of these bound states. We calculate the scattering of these three-body bound states with a target nucleus in the context of dark matter direct detection experiments. A signature of this novel proposal for the dark matter is the nuclear recoil energy spectrum which differs from that of an elementary particle or two-body bound state.

Hershdeep Singh
Duke University

Date submitted: 12 Jan 2018 Electronic form version 1.4