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Sticky Dark Matter

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There is experimental evidence that Dark Matter (DM) makes up about 25\% of the Universe mass and is most likely nonrelativistic. We explore possibility of creation and existence of bound states of Dark Matter and standard model (SM) particles. Such bound states can be potentially created and detected during direct DM search experiments (DAMA, CDMS, XENON etc.). We work in model-independent effective field theoretic approach to determine conditions under which such bound states can be created. Our results appear to be dependent on nuclei used in DM direct detection experiments. In this scenario we determine the region of DM parameter space that provides simultaneous fit to DAMA and CDMS data.

Primary author: Prof. PETROV, Alexey (Wayne State University)

Co-author: Dr BADIN, Andriy (Duke University)

Presenter: Prof. PETROV, Alexey (Wayne State University)

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