Abstract Submitted
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Physics using Polarized Slow Neutron Spin Rotation WILLIAM SNOW, Indiana University/CEEM, NSR COLLABORATION — We discuss the physics which can be accessed through measurement of the rotation of the plane of polarization of slow neutrons moving through matter. We isolate the relevant term in the forward scattering amplitude and present examples of phenonema which can in principle give rise to such a rotation, such as neutron-matter weak interactions in the Standard Model [1], exotic weakly-coupled long-range interactions [2], and many forms of gravitational torsion.

[1] W.M. Snow *et al.*, Phys. Rev. C **83** 022501(R) (2011).
[2] H. Yan and W. M. Snow, Phys. Rev. Lett **110**, 082003 (2013).

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