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Time-Reversal-Violating Interactions in the Neutron Deuteron System ANNA DAVID, JARED VANASSE, Stetson University — Time reversal violating interactions within the Standard Model occurs between quarks and at low energies manifests itself in nucleon-nucleon interactions. Time reversal and parity violating nucleon-nucleon interactions, at low energies $E < m_\pi^2/(2M_N)$ are characterized by five low energy constants. Our calculation of the neutron deuteron system used pionless effective field theory that describes nucleon-nucleon interactions at low energies through contact interactions. We considered two observables, the spin rotation of the incoming neutrons on a polarized deuteron target and the asymmetry of polarized neutrons scattering off a polarized deuteron target. These two observables depend on different linear combinations of the five low energy constants.This work is part of an effort to characterize various possible experiments in terms of the five low energy constants in order to determine which experiments are better suited to measuring different low energy constants.

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