Synchronous Spin Exchange Optically Pumped NMR Gyro\textsuperscript{1} SU-SAN SORENSEN, DANIEL THRASHER, JOSH WEBER, ANNA KORVER, THAD WALKER, University of Wisconsin-Madison — We discuss the leading systematic errors of a synchronous spin exchange optically pumped NMR gyro. Xe\textsubscript{131} and Xe\textsubscript{129} are simultaneously polarized transverse to a pulsed bias magnetic field through spin exchange collisions with polarized Rb atoms. We further discuss progress towards using our device to search for long range interactions from axionlike particles.

\textsuperscript{1}NSF, Northrop Grumman Corp.