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Angular and Temperature Dependent ^{77}Se NMR in the Metallic and Field-Induced Spin Density Wave State in (TMTSF)$_2$ClO$_4$[1] LLOYD LUMATA, PHIL KUHNS, ARNEIL REYES, JAMES BROOKS, Department of Physics and National High Magnetic Field Laboratory, Florida State University, Tallahassee, FL 32310 — We present an exploratory investigation of the NMR pulse-power and magnetic field direction dependence of the ^{77}Se NMR line shapes and relaxation rates in the metallic and field-induced spin density wave (FISDW) state of the quasi-one-dimensional organic conductor (TMTSF)$_2$ClO$_4$. By reducing the integrated NMR pulse power (via width and/or pulse height), the limitations of the enhancement factor below the FISDW transition are overcome, and the ^{77}Se spin-lattice relaxation rate $1/T_1$ can be measured in both the metallic and FISDW states vs. temperature and field direction. Our results on the temperature dependence of $1/T_1$in the vicinity of the FISDW transition, and also a description of the temperature and field direction dependence of the NMR spectra, will be presented.

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