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Probing Spin Pairing of Superconductiing State in $(TMTSF)_2ClO_4$ with ^{77}Se Knight Shift Measurement J. SHINAGAWA, Dept.Phys.and Astro.UCLA, C. PARKER, Harvey Mudd, F. ZHANG, B. ALAVI, S.E. BROWN, Dept.Phys.and Astro.UCLA — We report measurements of the ^{77}Se Knight shift at low temperatures and $\vec{B}(= 1.38T) \parallel \vec{a}$ in the organic superconductor $(TMTSF)_2ClO_4$. Recent observations of an upper critical magnetic field H_{c2} exceeding the spin paramagnetic limit by a factor of order two led to suggestions that this system may be a candidate for a triplet pairing state [1]. The Knight shift is proportional to the spin susceptibility, which does not vanish for the case of triplet pairing. We were limited by heating effects to a range of temperatures $T > .8T_c(1.38T)$, but nevertheless observed a change in the NMR frequency consistent with a 10-15 percent reduction in the spin susceptibility relative to the normal state. We discuss the implications of these results. This research is supported by NSF grant DMR-0203806. [1] J.I. Oh and M.J. Naughton, Phys.Rev.Lett. **92**, 067001 (2004)

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