

Abstract Submitted  
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**Possible restoration of superconductivity in the quasi-one-dimensional conductor  $\text{Li}_{0.9}\text{Mo}_6\text{O}_{17}$  in pulsed high magnetic field  $H \approx 100 \text{ T}$** <sup>1</sup> OTAR SEPPER, ANDREI LEBED, University of Arizona — We present a theoretical study of restoration of superconductivity in the form of the triplet reentrant superconducting phase in the quasi-one-dimensional (Q1D) conductor. Substitution of known band and superconducting parameters of the presumably triplet Q1D superconductor  $\text{Li}_{0.9}\text{Mo}_6\text{O}_{17}$  into our theoretical equations shows that such restoration can happen in non-destructive pulsed magnetic fields of the order of  $H \approx 100 \text{ T}$ . We investigate in detail how small inclinations of a direction of magnetic field from its optimal experimental geometry decrease the superconducting transition temperature of the reentrant phase, which is important for its experimental discovery. If confirmed experimentally, the reentrant superconducting phase in  $\text{Li}_{0.9}\text{Mo}_6\text{O}_{17}$  would be the first example of the survival of superconductivity in ultra high magnetic fields and would, in addition, unequivocally confirm the spin-triplet pairing nature in this compound.

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