

Abstract Submitted  
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**Lebed Magic Angles in  $(\text{TMTSF})_2\text{X}$  Probed by Torque, Transport and NMR**<sup>1</sup> J. I. OH, Boston College, K. KOBAYASHI, Princeton University, P. M. CHAIKIN, NYU, J. SHINAGAWA, UCLA, S. E. BROWN, UCLA, M. J. NAUGHTON, Boston College — We've investigated the Lebed effect [1] in the quasi-1D molecular organic conductor  $(\text{TMTSF})_2\text{X}$  for magnetic fields in the  $b' - c^*$ -plane, via angle-dependent torque, magnetoresistance, and NMR relaxation rate. In torque versus field angle measurements for  $\text{X} = \text{ClO}_4$  at 0.1 K, we observed distinct field induced spin density wave (FISDW) transitions but, to within our experimental accuracy of  $3 \times 10^{-11}$  Nm, we found no evidential anomalies at the Lebed magic angles. We compare this result with earlier reports of torque measurements in  $\text{X} = \text{ClO}_4$  [2] and  $^{77}\text{Se}$  NMR relaxation rate measurements in  $\text{X} = \text{PF}_6$  [3]. In fixed angles  $T$ - (NMR) and  $B$ -sweeps (torque and magnetoresistance) in the vicinity of magic angles, no change in the FISDW position was observed. These measurements suggest that magic Lebed orientations have no effect on the metal-FISDW transition. [1] A. G. Lebed, JETP Lett. **43**, 174 (1986). [2] M. J. Naughton *et al.*, Phys. Rev. Lett. **67**, 3712 (1991). [3] W. Wu *et al.*, Phys. Rev. Lett. **94**, 097004 (2005)..

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