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Spin glass behavior of Mn-intercalated TiS_2[1] PAUL SHAND, University of Northern Iowa, MICHAEL STREICHER, Purdue University, SOFYA MARKOVA, Hertzen State University, TYLER RASH, LAURA STRAUSS, TIM KIDD, University of Northern Iowa — We have performed extensive magnetic measurements on $Mn_{0.09}TiS_2$ to determine the nature of the low-temperature transition previously observed in this intercalated dichalcogenide. Zero-field cooled and field-cooled dc magnetization measurements exhibit a cusp and bifurcation at $T_g = 5.5$ K. The real and imaginary parts of the ac susceptibility also show peaks in the vicinity of T_g. The peaks shift with frequency, with the magnitude of the shift being similar to those observed in RKKY-mediated spin glasses. Time-dependent dc magnetization measurements suggest aging behavior at temperatures lower than T_g, consistent with non-equilibrium dynamics. The totality of the evidence suggests that $Mn_{0.09}TiS_2$ is a spin glass similar to canonical RKKY spin glasses such as $Cu_{1-x}Mn_x$.

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