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Magnetic characterization of a Mn6 Single-molecule Magnet SIMRANJEET SINGH, ENRIQUE DEL BARCO, Department of Physics, University of Central Florida,Orlando, Fl, MAHAMMAD ALI, Department of Chemistry, Jadavpur University, Kolkata, India — Single Molecule magnets (SMMs) are excellent candidates for the exploration of fundamental quantum effects at the nanoscale, as well as for potential applications in emerging technologies, such as quantum computation. Of particular interest are Mn6 SMMs, one of which has the highest effective energy barrier to magnetization reversal reported so far in the literature. We have performed Hall-effect magnetometry on single crystals of a new kind of Mn6 at cryogenic temperatures (>230mK). We will discuss the dependence of the hysteresis loops on the temperature and different sweep rates of the applied magnetic field. The high saturation fields observed in this SMM will be discussed.

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