Low-Temperature Relaxation Calorimetry of Some Molecular Magnets

Y. Nakazawa[C, S]
Department of Chemistry, Graduate School of Science, Osaka University, Toyonaka, Osaka, Japan
nakazawa@chem.sci.osaka-u.ac.jp

S. Yamashita
Department of Chemistry, Graduate School of Science and Engineering, Tokyo Institute of Technology, Tokyo, Japan

The low-temperature relaxation calorimetry technique to measure heat capacity of organic charge transfer salts is reported. We have designed our original calorimetry cells using small chip ruthenium oxide thermometer supplied by KOA. The magnet-resistance of this thermometer is smaller than usual chips. Using these chips, we have measured the heat capacity of interesting organic superconductors and organic magnets, especially the k-(BEDT-TTF)$_2$Cu$_2$(CN)$_3$ salt which shows spin-liquid behavior at low temperatures. The interesting spin excitations due to spin frustrations of s=1/2 system are discussed including its magnetio fields dependence. The possible application of our calorimetry cell to the heat capacity measurements of some single molecule magnets is also reported.