Magneto-resistance of a complex system i.e., Kagome array of antidots (holes)

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In this work, we have investigated the magneto-resistance oscillations of one of the complex array i.e., kagome array of antidots (holes) on the superconducting Nb film. We observed the unusual magneto-resistance effect by sweeping the magnetic field during R-T magneto-resistance measurement. We tuned the magneto-resistance oscillations at different applied magnetic fields based on the R-H curves i.e., 0H, 1/2 H, and 1H. The 1/2H magneto-resistance curve has lower Tc as compared to 0H and even 1H, which unusual behavior in this kind of work. We have observed the unusual behavior in the R-H curve too i.e, the 1/2H dip in R-H curve. This behavior is due to the complex lattice of kagome array.

Section: LD - Low dimensional and confined systems

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