

Shock Remanent Magnetization of Cu98%Co2% loaded 5, 10 and 20GPa

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To understand the magnetic change of meteorites by shocks, Cu98%Co2% samples were shocked to 5, 10 and 20GPa under the controlled magnetic field (h) to $h=0.1\text{mT}$ toward the parallel ($//$) and $h=0.15\text{mT}$ to the perpendicular against shock.

$h//$: The intensity of shock remanent magnetization (SRM) increased clearly by the shocks, for example from 3.45×10^{-4} to 3.97×10^{-3} Am²/kg by 5GPa. The directions scattered widely, while the inclinations showed low having no relation to the shock level. $h=90$ degrees: The SRM intensity increased as well as that of parallel field experiments. Although the direction scattered in the low inclination, the declination seems to be deflecting to the applied field direction. The samples shocked 5GPa and nonshocked samples were cut into 8 subsamples. Their directions of remanence scattered widely for the shocked samples but clustered for nonshock samples

These results are not consistent to the results by Dickinson and Wasilewsky (2000); aligned SRM to the applied field but flattening component appears. We cannot explain such complicate SRM characteristics, but the SRM directions of subsamples seems to be similar to the NRM distribution of chondrites.