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Torque Magnetometry of Low Anisotropic CaCo2As2 Single Crystals

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Abstract : Role of Co spins in CaCo2As2 single crystal is systematically studied by using dc magnetization and magnetic torque measurements. A spin-flop transition in the antiferromagnetism (AFM) CaCo2As2 single crystal is studied by using dc magnetization and magnetic torque. Field dependent and angle dependent torque magnetometry confirmed the existence of spin-flop transition in this compound which is in agreement with the dc magnetization studies. A comparison of dc magnetization and torque magnetometry measurements for CaCo2As2 single crystal is done in detail. In conclusion, torque magnetometry can be a useful tool to study the spin flop transition in low anisotropic compounds analogous to dc magnetization studies.

Keywords : spin flop transition, torque magnetometry, magnetization, anisotropic
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