

Abstract Submitted
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Advantages of vector magnetometers in investigations of magnetic materials ALEXANDER BAZHAN, P.L.Kapitza Institute for Physical Problems, RAS, Moscow, Russia — Advantages of vector magnetometer with horizontal magnetic fields up to 9T at liquid helium temperatures, which present possibility to investigate separate components of samples magnetic moments and their magnetic field dependencies, used in studies of exchange and magnetic anisotropic interactions of magnetic ions, are discussed. Investigations of magnetic field behaviour of orientations of ordered magnetic moments of magnetic ions with respect to materials crystallographic axis are presented by such vector magnetometer. Advantages are discussed on examples of studies of non-collinear magnetic orderings of magnetic moments of Cu ions in Mott insulators, Nd_2CuO_4 , which are of interest in studies of transformations of Cu non-collinear magnetic orderings, when additional two-dimensional correlated electrons, holes carriers systems are introduced in $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_{4\pm\delta}$, used in HTS investigations. Studies of, perpendicular to magnetic field, components of samples magnetic moments, which are determined by polarization of Nd magnetic system by Cu magnetic system in Nd_2CuO_4 , present possibility to investigate Cu non-collinear magnetic orderings and their transformations in $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_{4\pm\delta}$. Such vector magnetometer can be used in experimental investigations with horizontal high magnetic field constructions.

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