

## 1.59: Incommensurate magnetic structure

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An *incommensurate magnetic structure* is a structure in which the magnetic moments are ordered, but without periodicity that is commensurate with that of the nuclear structure of the crystal. In particular, the magnetic moments have a spin density with wave vectors that have at least one irrational component with respect to the reciprocal lattice of the atoms. Or, in the case of localized moments, the spin function  $\mathbf{S}(\mathbf{n}+\mathbf{r}_j)$  (where the  $j$ th atom has position  $\mathbf{r}_j$  in the unit cell) has Fourier components with irrational indices with respect to the reciprocal lattice of the crystal.

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