

Two magnets that add up to zero: a computational ledger for YBaMnFeO5 and KV[Cr(CN)6]

Original summary — NOT the original paper or model card.

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Authors/source: compensated-magnet-ledger contributors (computations by Claude agents, Anthropic)

Coverage: Video topic

What the source reports

AI-assisted DFT study proposes YBaMnFeO5 and re-identifies the previously synthesized KV[Cr(CN)6] as candidate Luttinger-compensated semiconductors. [20]

Managing expectations

Neither band gap, conductivity nor spin polarization has been measured for these claimed properties. YBaMnFeO5 ordering may be inaccessible by standard synthesis; disorder destroys the proposed effect. KV[Cr(CN)6] evidence concerns one hydrated powder; hydration calculations differ by method. Ideal-crystal DFT omits reliably resolved spin–orbit/orbital effects and exact finite-temperature compensation. [20]

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