**Weyl and Triple Nodal Points in half-metallic ferrimagnets**

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For last decade years, many topological phases have been proposed and experimentally observed. Among them, recently, topological matters with various dimensional nodal points have been gained a lot of interest. For example, Dirac and Weyl nodes are zero-dimensional, nodal lines are one-dimensional, and nodal links are three-dimensional. In particular, a novel 0D triple nodal point is of interest, since it has no high energy counterpart.

In this presentation, we will address topological properties in the Cr-based inverse Heusler compounds, showing magnetic Weyl points, triple nodal points, and nodal links in the absence of spin-orbit coupling. Our surface state calculations, based on the Green function approach, show several Fermi arcs connecting each Weyl point and each triple nodal point. Furthermore, the triple nodal points are connected with the nodal links, leading to the so called nexus fermionic state near the Fermi level. Using first principles calculations, we will analyze the origin of these topological characters. Our results are expected to provide a platform of a novel topological phase.

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