## Contribution submission to the conference Regensburg 2022

**Topological magnons driven by the Dzyaloshinskii-Moriya interaction in the centrosymmetric ferromagnet $Mn_5Ge_3$** —
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The Berry phase of electrons and magnons can lead to various unique transport effects and protected edge states of topological nature. Here, we show theoretically and via inelastic neutron scattering experiments that bulk ferromagnetic $Mn_5Ge_3$ hosts topological Dirac magnons. Although inversion symmetry prohibits a net Dzyaloshinskii-Moriya interaction in the unit cell, it is locally allowed and is responsible for the gap opening in the magnon spectra. This gap is predicted and experimentally verified to close by rotating the magnetization from being parallel to being perpendicular to the *c*-axis. The tunability of $Mn_5Ge_3$ by chemical doping or by thin film nanostructuring makes it an exciting new platform to explore and design topological magnons.

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