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Title: Equivariant contact equivalence applied in condensed matter physics

Abstract: In Thom-Mather theory of stability, map germs are usually considered up to left-right equivalence, that is, smooth change of coordinates in the source and in the target. A coarser equivalence of map germs called contact equivalence was originally introduced as an auxiliary tool to study the left-right equivalence.

In the talk the equivariant version of contact equivalence is used in the context of condensed matter physics, in particular, for degeneracies of electronic band structures of crystalline solids. We study how physical symmetries affect the allowed merging processes of degeneracy points and the stability of these processes.
Joint work with Gabriele Naselli, György Frank, Dániel Varjas, Ion Cosma Fulga, András Pályi, Viktor Könye
https://arxiv.org/abs/2403.08518