Institut für Geometrie und Topologie

Sommersemester 2025

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Almost symmetric homogeneous submanifolds

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Raum 7.530

Abstract: We introduce the class of almost symmetric submanifolds of Euclidean space, a close relative of symmetric submanifolds, namely, we require that the extrinsic symmetry has a one-dimensional fixed point set. We use the rank theorem for submanifolds to reduce the classification to the following cases:

1. homogeneous submanifolds of codimension 3.
2. most singular orbits in an irreducible s-representation; and
3. almost most singular orbits in an irreducible s-representation (in this case, the submanifold is a partial holonomy tube of a most singular orbit through a vector lying in a 2-dimensional factor of the normal holonomy).

We then completely classify these spaces. This is joint work with Carlos Olmos.

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