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On Riemannian manifolds with parallel and closed skew torsion

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Raum 7.530**

Abstract: This talk is divided in three parts. First, I review structural properties and examples of geometries with parallel skew torsion. Second, I take a closer look at those geometries where the torsion is in addition closed; this equips every tangent space with the structure of a metric Lie algebra. These manifolds always locally split as a product into well understood factors, allowing a complete local classification. Third, I investigate various G -structures defining a geometry of this type, with a focus on almost Hermitian structures, extending recent results of Barbaro-Pediconi-Tardini. This is joint work with Andrei Moroianu.

