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On complete linear Weingarten hypersurfaces in locally symmetric Riemannian manifolds

Comment.Math.Univ.Carolin. 56,4 (2015) 515–529.

Abstract: Our aim is to apply suitable generalized maximum principles in order to obtain characterization results concerning complete linear Weingarten hypersurfaces immersed in a locally symmetric Riemannian manifold, whose sectional curvature is supposed to obey standard constraints. In this setting, we establish sufficient conditions to guarantee that such a hypersurface must be either totally umbilical or an isoparametric hypersurface with two distinct principal curvatures one of which is simple.

Keywords: locally symmetric Riemannian manifolds; Einstein manifolds; complete linear Weingarten hypersurfaces; totally umbilical hypersurfaces; isoparametric hypersurfaces

AMS Subject Classification: Primary 53C42; Secondary 53A10, 53C20, 53C50

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