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Spheres of constant mean curvature and isoperimetric problems in homogeneous manifolds.
(**Sphères à courbure moyenne constante et problème isopérimétrique dans les variétés homogènes.**) (French. English summary) [Zbl 1222.53064](#)

Actes de Séminaire de Théorie Spectrale et Géométrie. Année 2009–2010. St. Martin d'Hères: Université de Grenoble I, Institut Fourier. Séminaire de Théorie Spectrale et Géométrie 28, 13-27 (2010).

Summary: This is a survey on some recent results about existence and uniqueness of constant mean curvature spheres in simply connected homogeneous Riemannian 3-manifolds and their relation to the isoperimetric problem in these manifolds.

For the entire collection see [[Zbl 1213.35007](#)].

MSC:

[53C42](#) Differential geometry of immersions (minimal, prescribed curvature, tight, etc.)

[53A10](#) Minimal surfaces in differential geometry, surfaces with prescribed mean curvature

[53C30](#) Differential geometry of homogeneous manifolds

Keywords:

mean curvature; homogeneous Riemannian 3-manifolds; isoperimetric problem; Alexandrov theorem

Full Text: [EuDML](#)