

**Ranjbar-Motlagh, Alireza**

**A non-existence theorem for isometric immersions.** (English) Zbl 1165.53034  
J. Geom. Phys. 59, No. 3, 263-266 (2009).

The author extends a well-known non-embedding theorem of *S. Chern* and *N. H. Kuiper* [Ann. Math. (2) 56, 422–430 (1952; Zbl 0052.17601)] from the case of isometric immersions of a compact manifold into Euclidean space to the case of isometric immersions of a non-compact Riemannian manifold into another that satisfies various conditions. The new result also generalizes and improves work by *L. Jorge* and *D. Koutroufiotis* [Am. J. Math. 103, 711–725 (1981; Zbl 0472.53055)] and by *A. R. Veeravalli* [Bull. Aust. Math. Soc. 62, No. 1, 165–170 (2000; Zbl 0992.53045)]. The proof employs a weak maximum principle for the Hessian due to *S. Pigola*, *M. Rigoli* and *A. G. Setti* [Maximum principles on Riemannian manifolds and applications. Mem. Am. Math. Soc. 822 (2005; Zbl 1075.58017)] and computations from the author's earlier paper [Bol. Soc. Bras. Mat., Nova Sér. 32, No. 2, 159–171 (2001; Zbl 1032.53047)].

Reviewer: James Hebda (St. Louis)

**MSC:**

- [53C40](#) Global submanifolds
- [53C24](#) Rigidity results
- [53C42](#) Differential geometry of immersions (minimal, prescribed curvature, tight, etc.)

**Keywords:**

[isometric immersion](#); [embedding](#); [maximum principle](#); [curvature](#)

**Full Text:** [DOI](#)

**References:**

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