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Rotational hypersurfaces of space forms with constant scalar curvature. (English)

Zbl 0695.53040

Manuscr. Math. 67, No. 3, 285-304 (1990).

We denote by N_c the simply connected n -dimensional space form of constant curvature $c = 0, 1$ or -1 . Let M be a complete rotational hypersurface of N_c with constant scalar curvature S . In this interesting, clearly written paper the author classifies these hypersurfaces in the cases $c = 0, -1$ and presents partial results for $c = 1$. Moreover he determines the admissible values of S in each of the three cases and gives a geometrical description of the hypersurfaces according to the values of S . In particular he proves that S is precisely greater than or equal to the space form curvature, except in the case $c = 1$ where any value greater than $(n-3)/(n-1)$ is admissible. Surprising examples of embedded hypersurfaces in the case $c = 1$ with $S < 1$ are presented, which are not isometric to a product of spheres.

Reviewer: [T.Hasanis](#)

MSC:

53C40 Global submanifolds

Cited in **3** Reviews
Cited in **25** Documents

Keywords:

space form; rotational hypersurface; constant scalar curvature

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

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