Title: Some geometric correspondences for homothetic navigation

Author(s): Ming Xu, Vladimir S. Matveev, Ke Yan and Shaoxiang Zhang

In this paper, we discuss the geodesic and Jacobi field correspondences for homothetic navigation, and then use them to find alternative proofs for some well-known flag curvature and S-curvature formulas, and to fully answer the question when a homothetic navigation preserves the local symmetric property in the curvature sense. These geometric correspondences also help us find the local correspondence between isoparametric functions or isoparametric hypersurfaces before and after a homothetic navigation, which generalizes the classification works of Q. He et al. for isoparametric hypersurfaces in Randers space forms and Funk spaces.

Address:
Ming Xu
School of Mathematical Sciences
Capital Normal University
100048 Beijing
P. R. China

Address:
Vladimir S. Matveev
Institut für Mathematik
Fakultät für Mathematik und Informatik
Friedrich-Schiller-Universität Jena
07743 Jena
Germany

Address:
Ke Yan
School of Mathematical Sciences and LPMC
Nankai University
300071 Tianjin
P. R. China

Address:
Shaoxiang Zhang
College of Mathematics and System Science
Shandong University of Science and Technology
266590 Qingdao
P. R. China