# Some geometric correspondences for homothetic navigation

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**Abstract.** 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.

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