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Esfandiar NAVA-YAZDANI* (navayazd@gmx.de), 3141 Chestnut St, Korman Center 209,
Philadelphia, PA 19104. *On Smoothness of Nonlinear Subdivision Schemes.*

There has been a growing interest in multiscale resolution of nonlinear data in the recent years. A significant issue therein is smoothness. In the present work we consider subdivision of manifold valued data. The notion of those subdivision schemes based on an appropriate linear one will be in a general setting such that known examples like subdividing by means of geodesic averaging in Riemannian manifolds, log-exponential subdivision schemes in Lie groups and those induced in symmetric spaces are covered. We investigate smoothness of these constructions and applications in dynamics of rigid body and diffusion tensors.

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