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Thanh Tran* (thanh.tran@unsw.edu.au), School of Maths & Stats, The University of New South Wales, Sydney, NSW 2052, Australia. *Solving geodesic problems on a sphere with spherical splines.*

We discuss the use of spherical splines in solving various equations on a sphere with application in geoscience, namely the Laplace-Beltrami equation, hypersingular integral equation, and shallow water equations. Fast solution techniques will also be discussed. (Received September 12, 2012)