1067-41-473   **Michael Schreiner*** (`schreiner@ntb.ch`), University of Buchs NTB, Institute for
Computational Engineering, Werdenbergstrasse 4, CH-9471 Buchs, Switzerland. *Sphere Oriented
Wavelets Based on Radial Basis Functions.*

Many applications require the approximation of functions on spheres or surfaces which are close to a sphere. Different
multiresolution approaches for these situations are at hand. In many cases (e.g. for applications in geodesy), partial
differential equations can be reduced to isotropic pseudo differential equations. The isotropy of the underlying operators
correspond to isotropic kernels on the sphere. Thus, the use of multiresolution analysis techniques which are based on
isotropic kernels, i.e. radial basis functions, are of advantage. In this talk, different approaches for the construction of
spherical wavelets which are themselves radials basis functions or which are based on them are discussed. Obviously, they
are naturally candidates for the solution of pseudo differential equations on the sphere. (Received September 06, 2010)