

Application of spherical helix nodes to a shallow-water model using radial basis functions

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Spherical helix nodes are applied to a shallow-water model. Quasi-uniform nodes along a spherical helix are generated with a simple non-iterative algorithm without any restriction on the number of nodes (Bauer 2000). The shallow-water equations are solved using radial basis functions (Flyer and Wright 2009). The standard shallow water tests (Williamson et al. 1992) show that model using the spherical helix nodes generates comparable or smaller errors and has better conservation properties than that using the minimum energy nodes adopted in the previous studies (Flyer and Wright 2009).

References

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