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Efficient meshless methods for pseudodifferential equations on the sphere

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Abstract

Radial basis functions are used to approximate the solutions of pseudodifferential equations on the sphere. These equations arise for example in geodesy and earth science. The use of radial basis functions ameliorates the situation when given facts are obtained as scattered data.

A unified analysis for both the Galerkin and collocation methods will be discussed. Numerical experiments on relatively large scattered data point sets taken from MAGSAT satellite data will be presented.

References

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