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Abstracts of Short Communications and Posters

Section:

15. Numerical Analysis and Scientific Computing

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Piecewise linear wavelet collocation for boundary element methods
We consider a piecewise linear collocation method using a three point hierarchical basis. This wavelet basis is defined over a triangulation of the boundary manifold, and it is a Riesz basis in the Sobolev spaces H^s for $-0.5 < s < 1.5$. We obtain the usual compression results and discuss the approximaton of the boundary manifold together with an quadrature algorithm for the computation of the stiffness matrix. Note that no analyticity of data and geometry is required.