

Multilevel Solvers for Meshfree PDE Discretizations

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We present a method for the efficient solution of the linear systems arising from meshfree PDE discretizations (i.e. without the need of generating a grid). Meshfree methods are particularly useful for complex geometries or if there are discontinuities. We use a radial basis function-finite differences (RBF-FD) discretization and combine it with techniques used in multigrid methods. The challenge is to adapt the well known techniques to the meshless case.