CLOUD COARSENING FOR THE MLPG/DMLPG SOLUTION OF DIFFUSION PROBLEMS

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Point clouds are easier to refine/coarse than meshes, this is the main point which makes meshless methods more apt to adaptive strategies than Finite Element Methods. After devising efficient test and trial spaces for Meshless Petrov–Galekin (MLPG) methods [2], and suitable refining strategies [1], in this presentation we introduce a coarsening strategy which is a fundamental key to adaptivity. We analyze by numerical experiments the feasibility of our coarsening strategy. We compare the accuracy of MLPG vs Direct MLPG (DMLPG) when applying our coarsening procedure, in order to identify the most stable and accurate technique.

References


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