

## PANEL CLUSTERING ON DEGENERATE MESHES

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The panel clustering algorithm (Hackbusch and Novack, 1989) provides an alternative representation of boundary element matrices which has the same order of accuracy as the standard approximation but for which the cost of matrix-vector multiplication is  $O(n \log^\kappa n)$ , where  $n$  is the number of degrees of freedom. Up to now the accuracy and complexity analysis for this algorithm has been obtained only for quasiuniform meshes.

In this talk we discuss the accuracy of this approximation when the meshes are neither quasiuniform nor shape-regular, but instead are allowed to contain elements with unbounded aspect ratio. We also briefly outline current work on the complexity of the algorithm.

This is joint work with Lars Grasedyck, Wolfgang Hackbusch and Stefan Sauter