Robust intersection algorithms for non-matching grids

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Parallel methods can involve two or more meshes overlapping one another. While normally it is beneficial to choose these meshes such that this overlap is easy to calculate. However, for some geometries it is preferable for these meshes to be unrelated to one another. In this case it is essential to be able to project from one mesh to the other. We present a robust algorithm for the intersection of simplicial grids. Its robustness is based on the principles of parsimony. We focus on which aspects provide robustness, as these may be applied to other algorithms.

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