Sanjay Khattri Which are Better Conditioned Meshes Adaptive, Uniform, Locally Refined or Locally Adjusted?

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Adaptive, locally refined and locally adjusted meshes are preferred over uniform meshes for capturing singular or localised solutions. Roughly speaking, for a given degrees of freedom a solution associated with adaptive, locally refined and locally adjusted meshes is more accurate than the solution given by uniform meshes. In this work, we answer the question which meshes are better conditioned. We found, for approximately same degrees of freedom (same size of matrix), it is easier to solve a system of equations associated with an adaptive mesh.