

Singularities in the flow in cavity solved by the finite element method

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Singularities caused by boundary conditions are studied in the flow in lid driven cavity. The asymptotic behaviour near the singularity points is used together with the a priori error estimates of the finite element solution, in order to design the mesh adjusted to singularity. We obtain very precise solution in the vicinity of the singularity. A posteriori error estimates are used to check the precision. Numerical results are presented.