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Multiparameter error resolution for finite elements

It is proven that the error behaviour of finite element solutions could be resolved by multi-scale of the mesh. With introducing some suitable multi-parameters of mesh sizes, a parallel algorithm for higher accuracy approximations is proposed, and a local refinement strategy is presented, too. This approach is mainly based on an error asymptotic resolution. Part of these results is joint work with my colleagues.

Reference: A. Zhou, etal, A multi-parameter splitting extrapolation and a parallel algorithm, *Sys. Sci. & Math. Sci.* , **10**, 3(1997), 253-260.