



Adaptive boundary element methods with convergence rates

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This paper presents adaptive boundary element methods for positive, negative, as well as zero order operator equations, together with proofs that they converge at certain rates. The convergence rates are quasi-optimal in a certain sense under mild assumptions that are analogous to what is typically assumed in the theory of adaptive finite element methods. In particular, no saturation-type assumption is used. The main ingredients of the proof that constitute new findings are some results on a posteriori error estimates for boundary element methods, and an inverse-type inequality involving boundary integral operators on locally refined finite element spaces.

Comments: 49 pages. Update: A couple of serious bugs and several minor inaccuracies fixed

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