A posteriori error estimates for contact problems

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A general concept for obtaining a posteriori error estimates for contact problems is presented. The approach consists in treating appropiate saddle point formulations and making use of a posteriori error estimates for variational equations. According to this concept, a residual based error estimator is developed for Signorini-type problems, obstacle problems and contact problems with friction. Eventually, several numerical results confirm the reliability of the estimates and their applicability in respect of h- and hp-adaptive finite element methods.

References:

[1] A. Schroeder: Fehlerkontrollierte adaptive h- und hp-Finite-Elemente-Methoden für Kontaktprobleme mit Anwendungen in der Fertigungstechnik, Hochschulschriftenserver Universität Dortmund, `http://hdl.handle.net/2003/22487`

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