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CONSTITUTIVE RELATION ERROR ESTIMATOR : AN ADMISSIBLE FIELD CONSTRUCTION USING A DOMAIN DECOMPOSITION STRATEGY

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Abstract. We are interested in error estimate using the constitutive relation error concept. The construction of an admissible fields is a pillar of the method and is revisited in this work using a domain decomposition strategy. An approximation is introduced in the estimate of the error and makes it possible to separate the initial global problem into several local ones (see [1]).

An analysis of the cpu-cost is presented in this work, it shows clearly the interest on large problems. The numerical results also shows that the quality loss introduced by the approximation is widely acceptable in a practical use. Some perspectives to this works will also be presented in the field of non-linear mechanics.

REFERENCES

[1] S. Pavot, E. Florentin, B. Magnain, L. Champaney Domain decomposition based finite element verification in linear framework *Finite Elements in Analysis and Design*, Vol. 88, p. 90–96 (2014)