

# **A ZERO-THICKNESS MORTAR/ INTERFACE FORMULATION WITH APPLICATION TO FRACTURE MECHANICS**

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## **ABSTRACT**

A zero-thickness mortar/interface element formulation is described and demonstrated. This element may be considered as an extension of traditional zero-thickness interface element (such as for instance described in [1]), in order to represent for instance material interfaces located in between subdomains with non-matching FE meshes. In the context of small strain analysis, these elements may be equipped with the same type of constitutive laws as traditional interface elements. Therefore, if friction or fracture-mechanics-based laws are adopted (e.g. [2,3]), mortar/interface elements may be used to represent frictional sliding or cracking following the lines (surfaces) along which they have been pre-inserted. Some verification examples of this type are presented. Future applications of the formulation in the context of large-strain, contact/friction analysis or domain decomposition techniques [4] are also discussed.

## **REFERENCES**

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