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Elasto-dynamic analysis of non-planar fault based on XFEM

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XFEM (Extended Finite Element Method) is a type of a mesh-free method based on the finite element method (FEM). XFEM has merits in capable of treating arbitrary geometry of cracks. We develop a numerical calculation algorithm based on XFEM for dynamic growth of cracks in an elastic-medium. In this presentation, we will show some preliminary results from the calculations and compare with the results of BIEM analysis.

Keywords: Extended finite element method, XFEM, non-planar fault, elasto-dynamic, fracture, numerical analysis