

The mathematical analysis of Xfem

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ABSTRACT

The aim of the presentation is to summarize the work on the mathematical analysis of the Xfem method developed in the references [1] to [7] with the co-authors E. Chahine, P. Laborde, J. Lasry, S. Nicaise J. Pommier and M. Salaün.

The mathematical tools dedicated to the analysis of the Xfem method will be detailed. The optimality of some variants of Xfem will be analyzed and an interpretation of the mechanisms that allow Xfem to be a performing method will allow to interpret some aspects of the essence of Xfem.

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