

Concentration analysis of brittle damage

vendredi 12 octobre 2018 12:00 (50 minutes)

This talk is concerned with an asymptotic analysis of a variational model of brittle damage, when the damaged zone concentrates into a set of zero Lebesgue measure, and, at the same time, the stiffness of the damaged material becomes arbitrarily small. In a particular non-trivial regime, concentration leads to a limit energy with linear growth as typically encountered in plasticity. I will show that, while the singular part of the limit energy can be easily described, the identification of the bulk part of the limit energy requires a subtler analysis of the concentration properties of the displacements. I will present a candidate bulk density that arises from a possible scenario. This is an ongoing work with J.-F. Babadjian and F. Rindler.

Summary

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