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Adriana Garroni* (garroni@mat.uniroma1.it), piazzale A. Moro 2, Roma, and **Christopher Larsen**. *Quasi static evolution for damage*.

We consider a variational model for damage proposed by Francfort and Marigo. This energy based model is non convex and in the minimization procedure microstructures can be produced. A relaxed incremental problem that account for irreversibility can be defined and, by means of time discretization, a relaxed quasi static evolution can be obtained. We give an alternative model for damage based on a threshold criterion. We prove that an 'energy based' solution is also a 'threshold' solution. As a byproduct we also obtain that the energy based model has only global minimizers. (Received September 26, 2006)