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Autore	Heinemann Christian
Titolo	Phase Separation Coupled with Damage Processes : Analysis of Phase Field Models in Elastic Media // by Christian Heinemann, Christiane Kraus
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Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Modeling of Phase Separation and Damage Processes -- Notion of Weak Solutions -- Existence of Weak Solutions -- Degenerate Limit.
Sommario/riassunto	The authors explore a unifying model which couples phase separation and damage processes in a system of partial differential equations. The model has technological applications to solder materials where interactions of both phenomena have been observed and cannot be neglected for a realistic description. The equations are derived in a thermodynamically consistent framework and suitable weak formulations for various types of this coupled system are presented. In the main part, existence of weak solutions is proven and degenerate limits are investigated. Contents Modeling of Phase Separation and Damage Processes Notion of Weak Solutions Existence of Weak

Solutions Degenerate Limit Target Groups Researchers, academics and scholars in the field of (applied) mathematics Material scientists in the field of modeling damaging processes The Authors Christian Heinemann earned his doctoral degree at the Humboldt-Universität zu Berlin under the supervision of Prof. Dr. Jürgen Sprekels and Dr. Christiane Kraus. He is a member of the research staff at the Young Scientists' Group at the Weierstrass Institute for Applied Analysis and Stochastics in Berlin. Christiane Kraus is a leader of the Young Scientists' Group at the Weierstrass Institute for Applied Analysis and Stochastics in Berlin.
