

SYMPOSIUM

"ENERGY RELEASE RATES AND PATH INDEPENDENT INTEGRALS IN DEFECT - AND FRACTURE MECHANICS"

JANUARY 9-11, 1985: BAD HONNEF (F.R. GERMANY)

Aim of the Symposium

One of the important tasks of fracture mechanics is the calculation of crack extension (or material) forces (i.e. energy release rates). More generally, these material forces are also relevant in defect mechanics. It is the aim of the symposium to discuss and in this way clarify these concepts and their relation to so-called path-independent integrals (such as the J-integral). Of particular interest will be the mathematical foundations of these concepts, including invariance considerations. The physical relevance of material and spatial conservation (or balance) laws for crack and defect growth criteria will be illuminated. Welcome will also be a discussion of related numerical and experimental methods. It is expected that the symposium will deal in addition with possible constraints imposed by constitutive relations of the material, e.g. thermoelastic, inelastic, nonlinear or plastic response of solids and various behavior of fluids.

Main topics

1. Mathematical foundations of conservation laws and modelling in defect and fracture mechanics.
2. Calculation of energy release rates in various continua including elastic and inelastic solids as well as fluids.
3. Applications to damage and fracture mechanics.

Date, location and organization

The symposium will be held from January 9 to 11, 1985 in Bad Honnef (near Bonn), FR Germany.

The organizers are

Prof. D. GROSS
Institut für Mechanik
Technische Hochschule Darmstadt
D-6104 Darmstadt, FRG
Tel.: 06151-16-3174

Prof. G. HERRMANN
Division of Applied Mechanics
Durand Building
Stanford University
Stanford, California 94305, USA
Tel.: 415-497-4134

Participation

Interested persons are requested to return as soon as possible the enclosed information form. The facilities at Bad Honnef are limited to approximately 50 participants. Prospective authors are asked to submit titles of papers by SEPTEMBER 15, 1984. Further information regarding the program and the organization details will be made known later.

Mailing address

All correspondence should be addressed to

Prof. D. GROSS
Institut für Mechanik
Technische Hochschule Darmstadt
D-6104 Darmstadt
F.R. Germany