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SANDIA LABORATORIES ALBUQUERQUE

THERMODYNAMIC EFFECTS
IN WAVE PROPAGATION

COURSE HELD AT THE DEPARTMENT
FOR MECHANICS OF RIGID BODIES
JULY 1971

UDINE 1971



SPRINGER-VERLAG WIEN GMBH

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P R E F A C E

In these lectures, I have attempted to introduce the theory of singular surfaces and illustrated the application of this theory to the examination of the behaviour of shock waves and acceleration waves propagating in nonlinear elastic bodies. The effects of heat conduction are ignored; and, for convenience, the entire discussion is restricted to the one dimensional context. I showed that definite and concrete results can be obtained without having to specify explicit constitutive relations.

I am deeply indebted to Professor Luigi Sobrero for making it possible for me to speak at the Centre and for his kind hospitality.

Udine, July 1971

A handwritten signature in black ink, appearing to read "Peter D. Chen". The signature is fluid and cursive, with a large initial "P" and "C".