

Preface

Predictive theories of collisions occurring in solid and fluid mechanics are investigated in this book. It is devoted to collisions which may be assumed instantaneous: collisions of rigid solids, collisions of deformable solids and collisions of solids and fluids. Collisions being dissipative, the coupled thermal and mechanical phenomena are considered in the predictive theories. Applications to collision engineering are presented, crowd motions, debris flow motions, shape memory alloys motions.

These problems have been investigated in the framework of the Laboratorio Lagrange, bringing together Italian and French scientists. In particular scientists from l'Università di Roma "Tor Vergata" and from l'École nationale des ponts et chaussées: Professors Federica Caselli, Francesco Federico, Michel Frémond, Directeur de Recherche Pierre Argoul, Doctors Michele Marino and Bachar Kabalan.

Some of the computations which illustrate the presentation are due to Doctors Stella Brach and Alberto Frau, they are warmly thanked.

Parts of this book are based on lectures given at the Scuola di Ingegneria of the Università di Roma "Tor Vergata".

November 2015

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Collisions Engineering: Theory and Applications

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2017, XII, 268 p. 117 illus., 95 illus. in color., Hardcover

ISBN: 978-3-662-52694-1