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Smooth particle applied mechanics. The state of the art. (English) Zbl 1141.76001

Advanced Series in Nonlinear Dynamics 25. Hackensack, NJ: World Scientific (ISBN 981-270-002-1/hbk).
xiii, 300 p. £ 39.00; \$ 68.00 (2006).

This book focuses on the SPAM, smooth particle applied mechanics, which is a computational approach to model nonequilibrium flows of continuum mechanics. It includes ten chapters which describe: SPAM methods, computer programming, statement of initial and boundary conditions, convergence and stability of the algorithms. Some sample applications to solve the problems of solid body, conclusions and literature survey are presented in the summary.

Reviewer: A. V. Fedorov (Novosibirsk)

MSC:

- 76-02 Research exposition (monographs, survey articles) pertaining to fluid mechanics Cited in 5 Documents
- 74-02 Research exposition (monographs, survey articles) pertaining to mechanics of deformable solids
- 76M28 Particle methods and lattice-gas methods
- 74S30 Other numerical methods in solid mechanics (MSC2010)

Keywords:

nonequilibrium flows; initial and boundary conditions; convergence; stability

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