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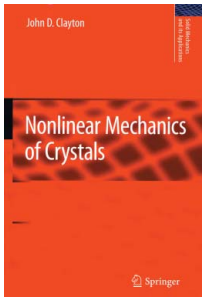
book reviews

Works intended for this column should be sent direct to the Book-Review Editor, whose address appears in this issue. All reviews are also available from **Crystallography Journals Online**, supplemented where possible with direct links to the publisher's information.

books received

The following books have been received by the Editor. Uncritical notices are given under this heading instead of reviews in order to facilitate rapid communication.



Nonlinear Mechanics of Crystals. By John D. Clayton. Pp. 700. Dordrecht, Heidelberg, London, New York: Springer, 2011. Price (hardcover) Euros 169.95. ISBN-978-94-007-0349-0.

In this book, modern continuum mechanics with an emphasis on finite deformations is applied to crystals. Topics dealt with include anisotropic crystal elasticity, plasticity and the effect of lattice defects. Thermoelastic, dielectric and piezoelectric behaviours are also addressed. Differential-geometric representations of kinematics of finite deformations and lattice defect distributions are presented. With a few exceptions, the text is written in generalized coordinates. To access most of the material, knowledge of tensor calculus is a prerequisite. Contents: 1, Introduction; 2, Mathematical Foundation; 3, Kinematics of Crystalline Solids; 4, Thermomechanics of Crystalline Solids; 5, Thermoelasticity; 6, Elastoplasticity; 7, Residual Deformation from Lattice Defects; 8, Mechanical Twinning in Crystal Plasticity; 9, Generalized Inelasticity; 10, Dielectrics and Piezoelectricity. Appendices: A, Crystal Symmetries and Elastic Constants; B, Lattice Statics and Dynamics; C, Discrete Defects in Linear Elasticity; D, Kinematic Derivations; E, SI Units and Fundamental Constants. References. Index. The book is intended for scientists and engineers and can be used as supplemental material for graduate courses in engineering, materials science, solid state physics and applied mathematics.