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Elasticity and plasticity of large deformations. Including gradient materials. 4th edition.
(English) [Zbl 1462.74001](#)

Cham: Springer (ISBN 978-3-030-72327-9/pbk; 978-3-030-72328-6/ebook). xxiv, 412 p. (2021).

Publisher's description: This book presents an introduction to material theory and, in particular, to elasticity, plasticity and viscoelasticity, to bring the reader close to the frontiers of today's knowledge in these particular fields. It starts right from the beginning without assuming much knowledge of the subject. Hence, the book is generally comprehensible to all engineers, physicists, mathematicians, and others. At the beginning of each new section, a brief Comment on the Literature contains recommendations for further reading.

This book includes an updated reference list and over 100 changes throughout the book. It contains the latest knowledge on the subject.

Two new chapters have been added in this new edition. Now finite viscoelasticity is included, and an Essay on gradient materials, which have recently drawn much attention.

See the reviews of the previous editions in [[Zbl 1189.74002](#); [Zbl 1154.74001](#); [Zbl 1231.74003](#)].

MSC:

- [74-01](#) Introductory exposition (textbooks, tutorial papers, etc.) pertaining to mechanics of deformable solids
- [74B20](#) Nonlinear elasticity
- [74C15](#) Large-strain, rate-independent theories of plasticity (including nonlinear plasticity)
- [74C20](#) Large-strain, rate-dependent theories of plasticity

Keywords:

[hyperelastic models](#); [anisotropic yield criteria](#)

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