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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	The problem, its historical development and the shortcomings -- Analytical and numerical studies of the linear problem (small deformation theory) -- Numerical studies of the non-linear problem: shooting methods, finite differences, finite elements -- A radially symmetric composite shell model of the Earth.
Sommario/riassunto	This book presents an in-depth continuum mechanics analysis of the deformation due to self-gravitation in terrestrial objects, such as the inner planets, rocky moons and asteroids. Following a brief history of the problem, modern continuum mechanics tools are presented in order to derive the underlying field equations, both for solid and fluid material models. Various numerical solution techniques are discussed, such as Runge-Kutta integration, series expansion, finite differences, and (adaptive) FE analysis. Analytical solutions for selected special cases, which are worked out in detail, are also included. All of these methods are then applied to the problem, quantitative results are compared, and the pros and cons of the analytical solutions and of all the numerical methods are discussed. The book culminates in a multi-layer model for planet Earth according to the PREM Model (Preliminary

Earth Model) and in a viscoelastic analysis of the deformation problem, all from the viewpoint of rational continuum theory and numerical analysis.