

Book Reviewed by [G.A. Maugin](#):

... The present book, beautifully written by David Y. Gao and richly documented, presents such a framework with the introduction of a wealth of fundamental notions and an illustration of these through many examples issued essentially from mechanics, although econometrics and nonlinear programming, and some fields of physics such as phase transitions certainly belong to the same chapter. The author, a mathematician, does his best to render an arid field as pleasant as possible while maintaining the required mathematical rigor. This is achieved thanks to the vast culture of the author who does not hesitate to quote many aphorisms of western and oriental origins at some critical points. ...

... all mathematically-inclined mechanicians will find in this book some highly interesting solid substance, whether in the foundations or in the many applications. Selected chapters may be recommended for a graduate course. Applied mathematicians will find in it some inspiration via the numerous examples. Finally, literary critics and apprentice philosophers will get to know more about human nature through the numerous quotations and aphorisms.

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