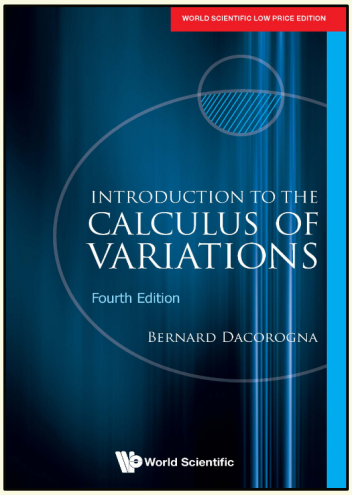
Introduction to the Calculus of Variations

4th Edition



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ABOUT THE BOOK

The calculus of variations is one of the oldest subjects in mathematics, and it is very much alive and still evolving. Besides its mathematical importance and its links to other branches of mathematics, such as geometry or differential equations, it is widely used in physics, engineering, economics and biology.

This book serves both as a guide to the expansive existing literature and as an aid to the non-specialist — mathematicians, physicists, engineers, students or researchers — in discovering the subject's most important problems, results and techniques. Despite the aim of addressing non-specialists, mathematical rigor has not been sacrificed; most of the theorems are either fully proved or proved under more stringent conditions.

This new edition offers an entirely new chapter, as well as the addition of several new exercises. The book, containing a total of 147 exercises with detailed solutions, is well designed for a course at both undergraduate and graduate levels.

READERSHIP

This book is suitable for advanced undergraduate and graduate students, as well as researchers in the field of calculus of variations and differential equations. It would also be applicable to physicists, engineers economists or biologists more generally who are interested in mathematics.

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Contd.

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- Direct Methods: Regularity
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ABOUT THE AUTHOR

Bernard Dacorogna Emeritus Professor of Mathematics at EPFL (Switzerland). Several books of the author (notably the present one) are by now standard references in the fields of the calculus of variations and partial differential equations.

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