

Introduction to Hodge Theory

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From a review of the French Edition:

The present book ... may be regarded as a masterly introduction to Hodge theory in its classical and very recent, analytic and algebraic aspects ... it is by far much more than only an introduction to the subject. The material leads the reader to the forefront of research in many areas related to Hodge theory, and that in a detailed highly self-contained manner ... this text is also a valuable source for active researchers and teachers in the field ...

— *Zentralblatt MATH*

Hodge theory is a powerful tool in analytic and algebraic geometry. This book consists of expositions of aspects of modern Hodge theory, with the purpose of providing the nonexpert reader with a clear idea of the current state of the subject. The three main topics are: L^2 Hodge theory and vanishing theorems; Hodge theory in characteristic p and variations of Hodge structures and mirror symmetry. Each section has a detailed introduction and numerous references. Many open problems are also included. The reader should have some familiarity with differential and algebraic geometry, with other prerequisites varying by chapter. The book is suitable as an accompaniment to a second course in algebraic geometry.

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