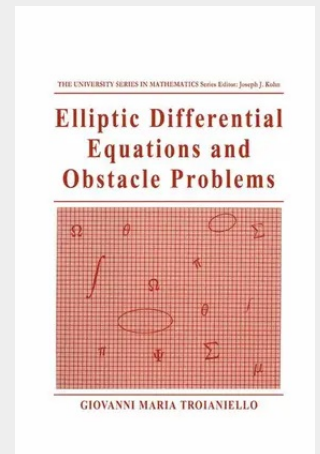


Elliptic Differential Equations and Obstacle Problems

In the few years since their appearance in the mid-sixties, variational inequalities have developed to such an extent and so thoroughly that they may now be considered an "institutional" development of the theory of differential equations (with appreciable feedback as will be shown). This book was written in the light of these considerations both in regard to the choice of topics and to their treatment. In short, roughly speaking my intention was to write a book on second-order elliptic operators, with the first half of the book, as might be expected, dedicated to function spaces and to linear theory whereas the second, nonlinear half would deal with variational inequalities and non variational obstacle problems, rather than, for example, with quasilinear or fully nonlinear equations (with a few exceptions to which I shall return later). This approach has led me to omit any mention of "physical" motivations in the wide sense of the term, in spite of their historical and continuing importance in the development of variational inequalities. I here addressed myself to a potential reader more or less aware of the significant role of variational inequalities in numerous fields of applied mathematics who could use an analytic presentation of the fundamental theory, which would be as general and self-contained as possible.

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