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   Nota di contenuto Preface -- Preface to the 2nd edition -- Notational conventions -- 1 Preliminary general material -- I Steady-state problems -- 2 Pseudomonotone or weakly continuous mappings -- 3 Accretive mappings -- 4 Potential problems: smooth case -- 5 Nonsmooth problems; variational inequalities -- 6. Systems of equations: particular examples -- II Evolution problems -- 7 Special auxiliary tools -- 8 Evolution by pseudomonotone or weakly continuous mappings -- 9 Evolution governed by accretive mappings -- 10 Evolution governed by certain set-valued mappings -- 11 Doubly-nonlinear problems -- 12 Systems of equations: particular examples -- References -- Index.

   Sommario/riassunto This book primarily concerns quasilinear and semilinear elliptic and parabolic partial differential equations, inequalities, and systems. The exposition leads the reader through the general theory based on abstract (pseudo-) monotone or accretive operators as fast as possible towards the analysis of concrete differential equations, which have

specific applications in continuum (thermo-) mechanics of solids and fluids, electrically (semi-) conductive media, modelling of biological systems, or in mechanical engineering. Selected parts are mainly an introduction into the subject while some others form an advanced textbook.   The second edition simplifies and extends the exposition at particular spots and augments the applications especially towards thermally coupled systems, magnetism, and more. The intended audience is graduate and PhD students as well as researchers in the theory of partial differential equations or in mathematical modelling of distributed parameter systems. ------ The monograph contains a wealth of material in both the abstract theory of steady-state or evolution equations of monotone and accretive type and concrete applications to nonlinear partial differential equations from mathematical modeling. The organization of the material is well done, and the presentation, although concise, is clear, elegant and rigorous. (…) this book is a notable addition to the existing literature. Also, it certainly will prove useful to engineers, physicists, biologists and other scientists interested in the analysis of (...) nonlinear differential models of the real world. (Mathematical Reviews).