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Nota di contenuto	A. Oulmelk, M. Sрати and L. Afraites. Comparing numerical methods for inverse source problem in time-fractional diffusion equation -- S. Lyaqini. An improvement to the nonparametric regression models using the nonsmooth loss functions -- A. Nachaoui. Iterative methods for inverse problems subject to the convection-diffusion equation -- Y. Essadaoui, I. Hafidi. The dynamic behavior of an incompressible lubrication system -- M. Nachaoui, A. Nachaoui and M A hilal. A new approach for solving an inverse Cauchy problem based on BFGS method -- S. Lyaqini, M. Nachaoui. Heart failure prediction using supervised machine learning algorithms -- M. Sрати, A. Oulmelk and L. Afraites. Optimization method for estimating the source term in elliptic equation

-- A. Nachaoui. Cauchy's problem for the modified biharmonic equation: ill-posedness and Iterative regularizing methods -- A. Nachaoui and S. M. Rasheed. A mesh free wavelet method to solve the Cauchy problem for the Helmholtz equation -- A. Nachaoui, M. Nachaoui and T. Tadumadze. Meshless methods to noninvasively calculate neurocortical potentials from potentials measured at the scalp surface -- A. Nachaoui and F. Aboud. Solving geometric inverse problems with a polynomial based meshless method -- A. El-Hakoum, Z. Zaabouli and L. Afraites. On the analysis of a coupled denoising PDE -- M. Nachaoui, F. Jauberteau. A novel identification scheme of an inverse source problem based on Hilbert reproducing kernels.

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## Sommario/riassunto

This volume comprises the thoroughly reviewed and revised papers of the First International Conference on New Trends in Applied Mathematics, ICNTAM 2022, which took place in Béni Mellal, Morocco, 19-21 May 2022. The papers deal with the following topics: Inverse Problems, Partial Differential Equations, Mathematical Control, Numerical Analysis and Computer Science. The main interest is in recent trends on Inverse Problems analysis and real applications in Computer Science. The latter is viewed as a dynamic branch on the interface of mathematics and related fields, that has been growing rapidly over the past several decades. However, its mathematical analysis and interpretation still not well-detailed and needs much more clarifications. The main contribution of this book is to give some sufficient mathematical content with expressive results and accurate applications. As a growing field, it is gaining a lot of attention both in media as well as in the industry world, which will attract the interest of readers from different scientist discipline. .

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