Record Nr. UNISALENTO991003406789707536 Autore Zambotti, Lorenzo Random obstacle problems [e-book] : École d'Été de Probabilités de Titolo Saint-Flour XLV - 2015 / Lorenzo Zambotti **ISBN** 9783319520964 3319520962 Descrizione fisica 1 online resource (ix, 164 pages) Lecture notes in mathematics, 0075-8434; 2181 Collana LC QA274.25.Z36 Classificazione Altri autori (Convegni) Ecole d'été de probabilités de Saint-Flour <45th : 2015 : Saint-Flour. France> Disciplina 519.22 Soggetti Stochastic partial differential equations - Congresses Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references Nota di contenuto 1 Introduction: 2 The reflecting Brownian motion: 3 Bessel processes: 4 The stochastic heat equation : 5 Obstacle problems : 6 Integration by Parts Formulae; 7 The contact set; References Studying the fine properties of solutions to Stochastic (Partial) Sommario/riassunto Differential Equations with reflection at a boundary, this book begins with a discussion of classical one-dimensional diffusions as the reflecting Brownian motion, devoting a chapter to Bessel processes. and moves on to function-valued solutions to SPDEs. Inspired by the classical stochastic calculus for diffusions, which is unfortunately still unavailable in infinite dimensions, it uses integration by parts formulae on convex sets of paths in order to describe the behaviour of the solutions at the boundary and the contact set between the solution and the obstacle. The text may serve as an introduction to space-time white noise, SPDEs and monotone gradient systems. Numerous open research problems in both classical and new topics are proposed