1. Record Nr. UNINA9910583467803321 Autore Poznyak Tatyana **Titolo** Modelling and control of ozonation and biodegradation in environmental engineering: dynamic neural networks approach // Tatyana Poznyak, Isaac Chairez, Alex Poznyak Amsterdam, Netherlands:,: Elsevier,, 2019 Pubbl/distr/stampa **ISBN** 0-12-812848-8 0-12-812847-X Descrizione fisica 1 online resource (548 pages): illustrations Disciplina 363.735 Soggetti Pollution - Technological innovations Ozonization Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Front Cover -- Ozonation and Biodegradation in Environmental Nota di contenuto Engineering -- Copyright -- Contents -- List of gures -- List of tables -- Preface -- Notation and symbols -- Mathematical notations and symbols -- Part 1 Environmental Engineering and Dynamic Neural Networks -- 1 Ozonation as main method for organic contaminants degradation in three different phases: liquid, solid, and gaseous -- 1.1 Ozonation of organic contaminants in liquid phase -- 1.1.1 Basic reaction principles in liquid phase ozonation -- 1.1.2 Ozonation procedure in liquid phase -- 1.2 Ozonation of organic contaminants in the solid phase -- 1.2.1 Basic reaction principles in solid phase ozonation -- 1.2.2 Ozonation procedure in solid phase -- 1.3 Ozonation of volatile organic contaminants in the gaseous phase -- 1.4 Technological aspects of ozonation -- 1.4.1 Ozone sensors -- 1.4.2 Ozonation reactions -- 1.4.3 Ozone generators -- 1.5 Control of corona-discharge generator -- 1.5.1 State-space model -- 1.5.2 Numerical simulations -- 1.6 Conclusions -- 2 Modeling of ozonation -- 2.1 Chemical basis of ozonation modeling in the liquid phase -- 2.2 Mathematical model of ozonation in liquid phase -- 2.2.1 Estimation of the saturation constant ksat -- 2.2.2 Evaluation of the mathematical

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