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Sommario/riassunto	This volume discusses the theoretical fundamentals and potential applications of the original electro-Fenton (EF) process and its most innovative and promising versions, all of which are classified as electrochemical advanced oxidation processes. It consists of 15 chapters that review the latest advances and trends, material selection, reaction and reactor modeling and EF scale-up. It particularly focuses on the applications of EF process in the treatment of toxic and persistent organic pollutants in water and soil, showing highly efficient removal for both lab-scale and pre-pilot setups. Indeed, the EF technology is now mature enough to be brought to market, and this collection of contributions from leading experts in the field constitutes a timely milestone for scientists and engineers.