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Nota di contenuto	Part 1 Pulsed discharge characterization -- Chapter 1 Breakdown physics on microscale and nanoscale gaps Allen L Garner -- Chapter 2 Diffuse discharges formed in an inhomogeneous electric field due to runaway electrons Victor F. Tarasenko -- Chapter 3 Non-linear interaction of sub-nanosecond high-power microwave pulse with neutral gas and preliminary formed plasma John Leopold, Yuiri Bliokh, Yan Cao and Yakov Kraisik -- Chapter 4 Key particles and chemical reactions of pulsed discharge plasma in gases Xiaoyue Chen -- Chapter 5 Memory effects and evolution mechanisms of repetitively pulsed streamer discharge Zheng Zhao -- Chapter 6 Numerical study on plasma characteristics driven by pulsed voltages from microseconds to nanoseconds Yuantao Zhang -- Chapter 7 Effect of pulsed power types on spatio-temporal characteristics of helium dielectric barrier discharges at atmospheric pressure Dong Dai.
Sommario/riassunto	This book highlights the latest progress in pulsed discharge plasmas presented by front-line researchers worldwide. The science and technology surrounding pulsed discharge plasmas is advanced through a wide scope of interdisciplinary studies into pulsed power and plasma

physics. Pulsed discharge plasmas with high-power density, high E/N and high-energy electrons can effectively generate highly reactive plasma. Related applications have gathered strong interests in various fields. With contributions from global scientists, the book elaborates on the theories, numerical simulations, diagnostic methods, discharge characteristics and application technologies of pulsed discharge plasmas. The book is divided into three parts with a total of 35 chapters, including 11 chapters on pulsed discharge generation and mechanism, 12 chapters on pulsed discharge characterization and 12 chapters on pulsed discharge applications (wastewater treatments, biomedicine, surface modification, and energy conversion, etc). The book is a must-have reference for researchers and engineers in related fields and graduate students interested in the subject.