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Autore	Martines Emilio
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Sommario/riassunto	There is growing interest in the use of physical plasmas (ionized gases) for biomedical applications, especially in the framework of so-called “plasma medicine”, which exploits the action of low-power, atmospheric pressure plasmas for therapeutic purposes. Such plasmas are “cold plasmas”, in the sense that only electrons have a high temperature, whereas ions and the neutral gas particles are at or near room temperature. As a consequence, the “plasma flame” can be directly applied to living matter without appreciable thermal load. Reactive chemical species, charged particles, visible and UV radiation, and electric fields are interaction channels of the plasma with pathogens, cells, and tissues, which can trigger a variety of different responses. Possible applications include disinfection, wound healing, cancer treatment, non-thermal blood coagulation, just to mention some. The understanding of the mechanisms of plasma action on living matter requires a strongly interdisciplinary approach, with competencies ranging from plasma physics and technology to chemistry, to biology and finally to medicine. This book is a collection of work that explores recent advances in this field.