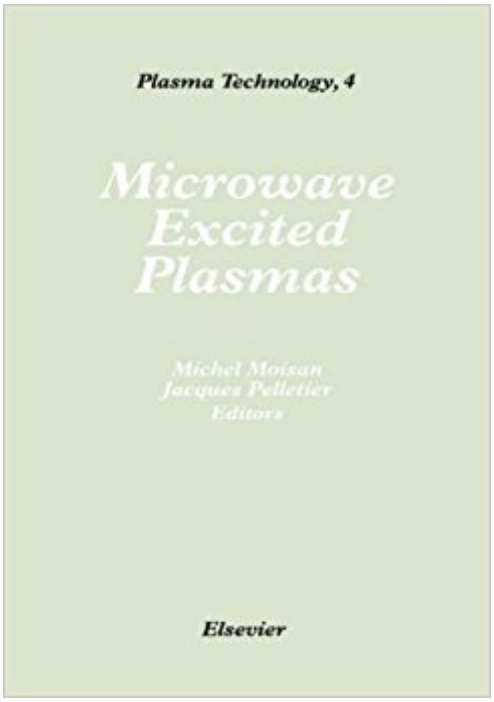
Microwave Excited Plasmas, Volume 4 (Plasma Technology)



Synopsis

The contrasting examples of microwave plasmas given in this volume demonstrate their capability of not only covering the totality of expressed needs in that particular field, but in many others. For example the ions and reactive neutral species, indispensable for the synergetic effects in etching and deposition processes can be used in metallurgical treatment, and for materials processing in general. They also have the ability to dissociate molecules and excite atoms as required in analytical chemistry where the information on the constituent concentrations is obtained through optical spectroscopy or mass spectrometry. Finally, microwave plasmas can supply the photons for laser and lighting applications. It is noteworthy that microwave plasmas cover an impressive pressure range of eight orders of magnitude from 10-3 Pa (10-5 torr) to above atmospheric pressure. The versatility of microwave plasmas, their moderate cost, and their ease of implementation particularly appeal to the industrial entrepreneur. As well as providing a review of current developments, the work proposes a synthesis on microwave discharges, laying out the corresponding physical references without developing too much plasma theory. It will be of interest both to the user, who may not be overly concerned about plasma science, and to the plasma expert, who may wish to redirect his interest towards plasma applications, such as materials processing.

Book Information

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