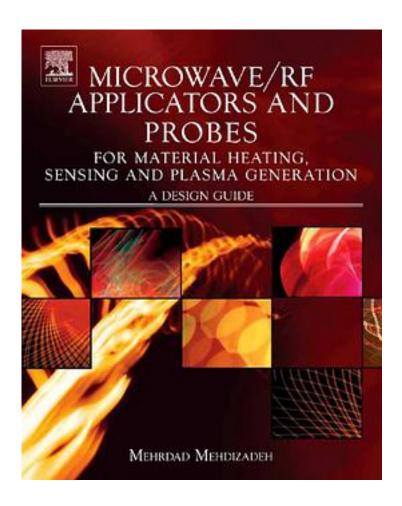
Microwave/RF Applicators and Probes for Material Heating, Sensing, and Plasma Generation



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Interactions of electromagnetic fields with materials at high frequencies have given rise

to a vast array of practical applications in industry, science, medicine, and consumer markets. Applicators or probes, which are the front end of these systems, provide the field that interacts with the material. This book takes an integrated approach to the area of high frequency applicators and probes for material interactions, providing a toolkit for those who design these devices. Particular attention is given to real-world applications and the latest developments in the area. Mathematical methods are provided as design tools, and are often simplified via curve-fitting techniques that are particularly usable by handheld calculators. Useful equations and numerically solved examples, using situations encountered in practice, are supplied. Above all, this volume is a comprehensive and useful reference where the reader can find design rules and principles of high frequency applicators and probes for material processing and sensing applications. Electronic and electrical R&D engineers, physicists, university professors and students will all find this book a valuable reference. Mehrdad Mehdizadeh is with the DuPont Company, Engineering Research & Technology Division in Wilmington, Delaware. His areas of expertise include high frequency hardware and electromagnetic methods of processing, sensing, and characterization of materials. His work and innovation in industrial, scientific, and medical applications of radio frequency and microwaves has résulted in 19 US patents and a number of publications. He earned his Ph.D. and M.S. from Marquette University (1983, 1980), and a B.S. from Sharif University of Technology (1977), all in electrical engineering. Dr. Mehdizadeh is a Senior Member of the Institute of Electrical and Electronic Engineers (IEEE), Sigma Xi (Scientific Research Society), the International Microwave Power Înstitute (IMPI), and a voting member of IEÉÉ Standard Association.

- . Books in this area are usually theoretical; this book provides practical information for those who actually intend to design a system
- . Features real world and numerically solved examples, and curve-fitted simple equations to replace complex equations provided in typical texts
- . Author is a voting member of IEEE Standards Association

作者介绍:

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