



VHF and Microwave Discharge Plasmas

By Essam Abdel Fattah

VDM Verlag Mrz 2010, 2010. Taschenbuch. Book Condition: Neu. 221x151x12 mm. Neuware - Recent requirements of high-density large-area plasmas for materials processing have led to innovative two plasma sources: one is very high frequency (VHF) capacitive plasma at 30-100 MHz and the other is surface wave plasma (SWP) at microwave frequency, typically 2.45 GHz. The book presents a fundamental research on the two plasma sources, especially focusing on electron heating mechanism. The first part presents in depth the physics behind VHF capacitive discharges, including plasma production and diagnostics, heating mechanism and mode transition, dissipated power. On the other hand, the second part is assigned to analytical and numerical modeling of slot-excited planar SWPs and covers the power reflection coefficient, the effect of the aperture size and position on the power coupling, the relative depth of the individual eigenmode and the effect of the corrugated dielectric plate surface on the uniformity of plasmas. The result in the book is an indispensable work for physicists and engineers in the field of plasma technology 168 pp. Englisch.



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