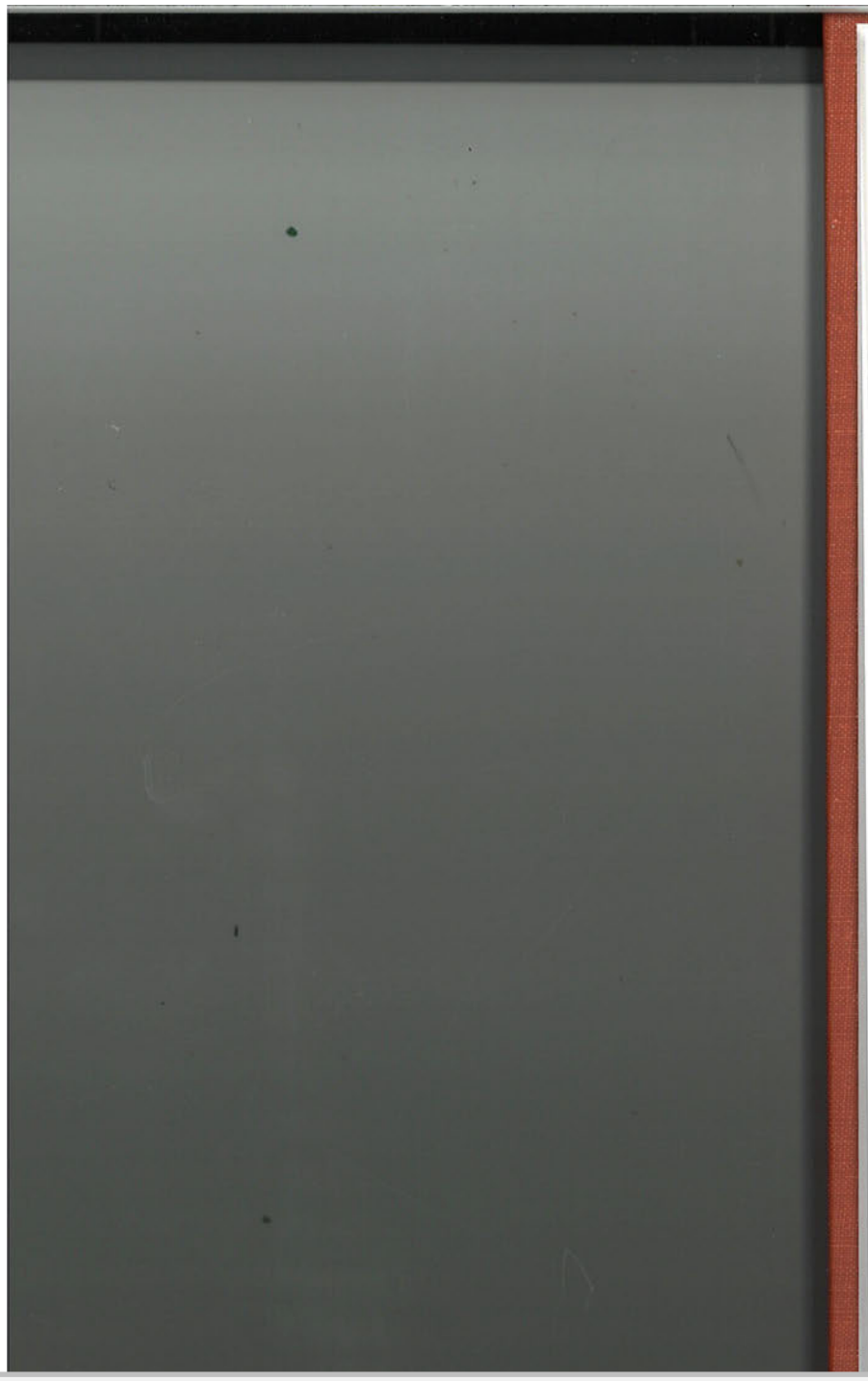
Glow Discharge Proc

SPUTTERING AND PLASMA ETCHING

Brian Chapman

A WILEY-INTERSCIENCE PUBLICATION

JOHN WILEY & SONS
New York • Chichester • Brisbane • Toronto • Si



Library of Congress Cataloging in Publi

Chapman, Brian N
Glow discharge processes.

"A Wiley-Interscience publication."
Includes bibliographical references a
1. Sputtering (Physics) 2. Glow dis
I. Title. II. Title: Plasma etching.

QC702.7.P6C48 537.5'2 80-
ISBN 0-471-07828-X

Printed in the United States of Americ

20 19 18 17 16 15 14 13

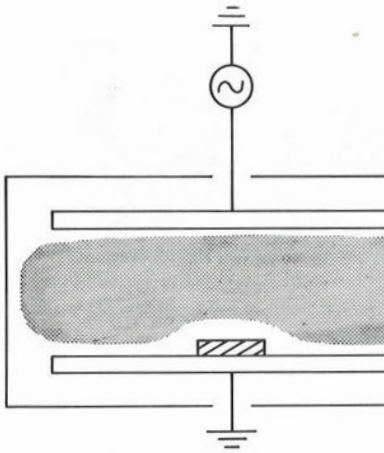


Figure 7-23. High pressure diode plasma etching and depo

quarter of the applied rf peak-to-peak voltage (Chapter
– 250 V for practical plasma etching processes. This is c
measurements and by observation of the dark spaces for
energy of ion bombardment on an electrode is determin
and by collisions in the sheath, as discussed in Chapters

Reactive ion etching systems (Figure 7-24) are essenti
systems. In sputtering, intense ion bombardment at the
nowhere else. This is achieved by making the target area
of the grounded chamber and baseplate. As a result, the
very small, but the sheath at the target, and hence at the
rf peak-to-peak, amounting typically to -300 V.

The different operating pressures of the two diode sys
ence ion bombardment energies very greatly, because th
collisions per unit length at the higher pressure is offset
much thinner dark space sheath. The two effects would