

THIN FILMS FOR OPTICAL SYSTEMS

**EDITED BY
FRANCOIS R. FLORY**

*Ecole Nationale Supérieure de Physique de Marseille
Marseille, France*

Marcel Dekker, Inc.

New York • Basel • Hong Kong

Contents

<i>From the Series Editor</i>	<i>iii</i>
<i>Preface</i>	<i>v</i>
<i>Contributors</i>	<i>xi</i>
Part I. Coating Design	
1. Thin-Film Optical Coating Design <i>H. A. Macleod</i>	1
Part II. Deposition Techniques and Related Topics	
2. Starting Materials <i>Shigetaro Ogura</i>	41
3. Optical Monitoring of Thin-Film Thickness <i>R. Richier, A. Fornier, and E. Pelletier</i>	57
4. Reactive Physical Vapor Deposition Processes <i>Hans K. Pulker and Karl H. Guenther</i>	91
5. Ion-Assisted Deposition <i>Bertrand G. Bovard</i>	117

6.	Ion Beam Sputtering <i>David T. Wei, Harold R. Kaufman, and Cheng-Chung Lee</i>	133
7.	Plasma Impulse Chemical Vapor Deposition <i>Johannes Segner</i>	203
8.	Molecular Beam Deposition <i>Andrew C. Walker, Gerald S. Buller, and Paul Meredith</i>	231
9.	Uniformity in Thin-Film Production <i>Catherine Grèzes-Besset</i>	249
Part III. Characterization Techniques		
10.	Spectrophotometric Methods for Refractive Index Determination <i>Jean-Pierre Borgogno</i>	269
11.	Ellipsometric Measurements <i>J. Rivory</i>	299
12.	Characterization of Absorption by Photothermal Deflection <i>Mireille Commandré and Pierre Roche</i>	329
13.	Introduction to Light Scattering in Multilayer Optics <i>Claude Amra</i>	367
14.	Guided Wave Techniques for the Characterization of Optical Coatings <i>François R. Flory</i>	393
15.	Mechanical Properties of Optical Thin Films <i>Hans K. Pulker</i>	455
Part IV. Applications		
16.	Graded Coatings <i>Angela Piegari</i>	475
17.	Damage-Resistant Laser Coatings <i>Mark R. Kozłowski</i>	521
18.	Thin-Film Coatings for Optoelectronic Devices <i>R. G. W. Brown</i>	551
	<i>Index</i>	575