

Gratings: Theory and Numeric Applications

ed. E. Popov (Institut Fresnel, CNRS, AMU, 2012)
INSB 2-85399-860-4

Boris Gralak: Exact Modal Methods

Table of Contents:

10.1	Introduction	1
10.2	Notations	2
10.3	Continuation of the electromagnetic field	4
10.3.1	Direct formulation: the transfer matrix	4
10.3.2	Rigorous derivation of the continuation procedure	5
10.4	Exact eigenmodes and eigenvalues method	9
10.5	Numerical algorithm	11
10.5.1	<i>R</i> matrix for a single lamellar layer	11
10.5.2	<i>R</i> matrix for a stack of lamellar layers	12
10.6	Numerical application	12
10.7	Appendix. Calculation of the exact modes and eigenvalues	14
10.7.1	The equation satisfied by the exact eigenvalues	14
10.7.2	Real eigenvalues	16
10.7.3	Complex eigenvalues	17
10.7.4	Eigenfunctions	18