Record Nr. UNINA9911020129503321 Autore Reed Graham T Titolo Silicon photonics: an introduction // Graham T. Reed, Andrew P. Knights Chichester; ; Hoboken, NJ, : John Wiley, c2004 Pubbl/distr/stampa **ISBN** 9786610272556 9781280272554 1280272554 9780470345948 0470345942 9780470870358 0470870354 9780470014189 0470014180 Descrizione fisica 1 online resource (277 p.) Altri autori (Persone) KnightsAndrew P Disciplina 621.38152 Soggetti Optoelectronic devices Silicon - Optical properties **Photonics** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Silicon Photonics; Contents; About the Authors; Foreword; Acknowledgements: 1 Fundamentals: 1.1 What is Phase?: 1.2 What is Polarisation?; 1.3 What is Interference?; 2 The Basics of Guided Waves; 2.1 The Ray Optics Approach to Describing Planar Waveguides; 2.2 Reflection Coefficients; 2.3 Phase of a Propagating Wave and its Wavevector; 2.4 Modes of a Planar Waveguide; 2.4.1 The Symmetrical Planar Waveguide; 2.4.2 The Asymmetrical Planar Waveguide; 2.4.3 Solving the Eigenvalue Equations for Symmetrical and Asymmetrical Waveguides; 2.4.4 Monomode Conditions; 2.4.5 Effective Index of a

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Sommario/riassunto

The growing demand for instant and reliable communication means that photonic circuits are increasingly finding applications in optical communications systems. One of the prime candidates to provide satisfactory performance at low cost in the photonic circuit is silicon. Whilst silicon photonics is less well developed as compared to some other material technologies, it is poised to make a serious impact on the telecommunications industry, as well as in many other applications, as other technologies fail to meet the yield/performance/cost tradeoffs. Following a sympathetic tutorial approach,