Physics of Thin Films #336 pages #Ludmila EckertovÃ¡ #1986 #Springer US, 1986 #9780306417986

Book: University Physics (OpenStax). Map: University Physics III - Optics and Modern Physics (OpenStax). 3: Interference.Â Thin-film interference thus depends on film thickness, the wavelength of light, and the refractive indices. For white light incident on a film that varies in thickness, you can observe rainbow colors of constructive interference for various wavelengths as the thickness varies. Example 3.5.2.Â An important application of thin-film interference is found in the manufacturing of optical instruments. A lens or mirror can be compared with a master as it is being ground, allowing it to be shaped to an accuracy of less than a wavelength over its entire surface. Figure 3.5.5. Physics of Thin Films. Authors. Ludmila EckertovÃ¡. Book. 38 Citations. 3.8k Downloads.Â About this book. Introduction. The investigation of the physical properties of matter has progressed so much during the last hundred years that today physics is divided into a large group of special branches, which are often very distant from each other. These branches arise because of the vast extent of the science itself, and are distinguished by the particular area studied, the method of investigation and so on. An independent and important branch that has developed recently is the physics of thin films. Woodhead Publishing, 2011, 4162 pages Thin-film technology is used in many applications such as microelectronics, optics, magnetics, hard and corrosion resistant coatings and micromechanics. This book provides a review of the theory and techniques for...Â ThinFilm-Zexian-Pre.indd 1 7/1/11 9:38:48 AM. Â© Woodhead Publishing Limited, 2011. Related titles: In-situ characterisation of thin îƒ€lm growth. (ISBN 978-1-84569-934-5). Recent advances in techniques to characterise thin îƒ€lms in-situ during deposition. Handbook of Thin-Film Deposition Processes and Techniques / [edited]. by Krishna Seshan. - - 2nd edition.Â The chemistry and physics of the films are becoming increasingly better understood, but as they are, the demands of the device designer become more stringent. For example, where the dielectric constant of silicon oxide-based insulators was ac-cepted as a design parameter to live with for thirty years or so, capacitance associated with interconnections now can be a real limitation on circuit performance.Â This book takes a snapshot of the state of the art in various technologies relating to thin films. It brings together in one convenient location a collection of the research results that have been gathered by many groups over the last few decades. The book is intended to bridge the gap between fundamental physics courses (such as optics, electrodynamics, quantum mechanics and solid state physics) and highly specialized literature on the spectroscopy, design, and application of optical thin film coatings. Basic knowledge from the above-mentioned courses is therefore presumed. Starting from fundamental physics, the book enables the reader derive the theory of optical coatings and to apply it to practically important spectroscopic problems. Both classical and semiclassical approaches are included. Examples describe the full range of classi