Physical Properties of Liquid Crystals - 9783527613953 - George W. Gray, Volkmar Vill, Hans W. Spiess, Dietrich Demus, John W. Goodby - 2009 - 522 pages - John Wiley & Sons, 2009

Smectic and Columnar Liquid Crystals: Concepts and Physical Properties Illustrated by Experiments (Liquid Crystals Book Series). Patrick Oswald, Pawel Pieranski. 12.43 Mb.Â The Physics of Lyotropic Liquid Crystals: Phase Transitions and Structural Properties. AntÃ´nio M. Figueiredo Neto, Silvio R. A. Salinas. 2.67 Mb. Phases Â· Phase transition Â· QCP. v. t. e. Liquid crystals (LCs) are a state of matter which has properties between those of conventional liquids and those of solid crystals. For instance, a liquid crystal may flow like a liquid, but its molecules may be oriented in a crystal-like way. There are many different types of liquid-crystal phases, which can be distinguished by their different optical properties (such as textures). The contrasting areas in the textures correspond to domains where the liquid Properties of Liquid Crystals. Liquid crystal phases are generally cloudy in appearance, which means that they scatter light in much the same way as colloids such as milk. This light scattering is a consequence of fluctuating regions of non-uniformity as small groups of molecules form and disperse. The anisotropy of liquid crystals causes them to exhibit birefringence . That is, light that enters the crystal is broken up into two oppositely-polarized rays that travel at different velocities. Observation of a birefringent material between crossed polarizing filters reveals striking patterns and Book description. This handbook is a unique compendium of knowledge on all aspects of the physics of liquid crystals. In over 500 pages it provides detailed information on the physical properties of liquid crystals as well as the recent theories and results on phase transitions, defects and textures of different types of liquid crystals. An in-depth understanding of the physical fundamentals is a prerequisite for everyone working in the field of liquid crystal research. With this book the experts as well as graduate students entering the field get all the information they need. Detailed info.Â   Physical Properties of Liquid Crystals â€" read a free preview online. Leave comments and reviews, vote for your favorite. Post a review.