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Nota di contenuto   Ferroelectric and Antiferroelectric Liquid Crystals; Contents; List of Symbols and Abbreviations; 1 Introduction; 2 Polar Materials and Effects; 2.1 Polar and Nonpolar Dielectrics; 2.2 The Nonpolarity of Liquid Crystals in General; 2.3 Behavior of Dielectrics in Electric Fields: Classification of Polar Materials; 2.4 Developments in the Understanding of Polar Effects; 2.5 The van der Waals Attraction and Born's Mean Field Theory; 2.6 Landau Preliminaries . The Concept of Order Parameter; 2.7 The Simplest Description of a Ferroelectric; 2.8 Improper Ferroelectrics; 2.9 The Piezoelectric Phase
3 The Necessary Conditions for Macroscopic Polarization3.1 The Neumann and Curie Principles; 3.2 Franz Neumann, Konigsberg, and the Rise of Theoretical Physics; 3.3 Neumann's Principle Applied to Liquid Crystals; 3.4 The Surface-Stabilized State; 3.5 Chirality and its Consequences; 3.6 The Curie Principle and Piezoelectricity; 3.7 Hermann's Theorem; 3.8 The Importance of Additional Symmetries; 3.9 Optical Activity and Enantiomorphism; 3.10 Non-Chiral Polar and NLO-Active Liquid Crystals; 4 The Flexoelectric Polarization; 4.1 Deformations from the Ground State of a Nematic

| Sommario/riassunto | The study of ferroelectricity is a branch of solid state physics which has shown rapid growth during the recent years. Ferroelectric materials exhibit unusual electric properties which make them useful in modern (opto)electronic technology, esp. display technology.Ferroelectric and antiferroelectric liquid crystals, including also various polymer forms, are the hottest research topic today in liquid crystals. The field is at the very beginning of industrial exploitation - a sensitive phase in which a good reference work is needed and will have a broad spectrum of readers both at universiti |