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Nota di contenuto	Mean-field theory(LGD) for ferroelectric films at the nanoscale -- Critical thickness from the mean-field theory (LGD) and from the first principles -- Size effect at the nanoscale -- Polymeric ferroelectric Langmuir-Blodgett films (vinylidene fluoride trifluoroethylene type) -- Epitaxial ferroelectric films with perovskite structure -- Homogeneous nondomain switching in the ferroelectric films at the nanoscale -- Possible application of the ferroelectric films at the nanoscale.
Sommario/riassunto	The investigation of nanosized ferroelectric films and ferroelectric nanocrystals has attracted much attention during the past 15 – 20 years. There is interest in the fundamental and applied aspects. The theoretical basis is connected with the development of the Landau-Ginzburg-Devonshire (LGD) mean field and the first principles theories to the ultrathin ferroelectric films with thickness in the vicinity of critical size. Important potential applications are possible nanosize ferroelectric films in non-volatile memories, microelectronics, sensors, pyroelectric and electro-optic devices. This new area of research of ferroelectricity is still in impetuous development and far from completion. Many topics elucidated need generalization. The book contains theory and experimental data for a wide range of ferroelectric materials.