

Ferroelectricity and Phase Transitions in Pyridinium Periodate Single Crystal

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Single crystals of pyridinium periodate were grown, and their physical properties were studied. Anomalies of the electric permittivity and birefringence were observed at $T_{c1} = 321$ K and $T_{c2} = 211$ K. These observations gave evidences for the existence of three phases denoted as I, II, and III. Hysteresis loops were observed both in phase II and III. Pyroelectric measurements showed two anomalies at T_{c1} and T_{c2} . The anomaly at T_{c1} is related to the transition between a para- and ferroelectric phase, and the anomaly at T_{c2} to the transition between two ferroelectric phases.

Key words: Phase Transitions; Ferroelectricity; Dielectric Properties; Birefringence.