Pretransitional and premelting effects in menthol.

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To canonic features of melting/freezing discontinuous phase transitions, one can encounter the lack of pretransitional effects in the liquids state and weak premelting effects with non-defined temperature evolutions in the crystalline state. This report shows the evidence for long-range and critical-like pretransitional effects in liquid menthol for electrooptic Kerr effect (*EKE*) and nonlinear dielectric effect (*NDE*). These methods are inherently associated with a strong electric field.The premelting effect, with well-defined temperature evolution, was evidenced in the crystalline state. Model explanations of these phenomena are proposed. For the premelting effect, the ‘reversed’ Mossotti-Catastrophe behavior is suggested.

Słowa kluczowe

Melting, Pretransitional effects, Electrooptic Kerr effect, Nonlinear dielectric effect, Dielectric constant, Strong electric field

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