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Title: Generation of Widely Tunable Terahertz Waves by Difference-Frequency Generation Using a Configurationally Locked Polyene 2-[3-(4-Hydroxystyryl)-5, 5-Dimethylcyclohex-2-Enylidene] Malononitrile Crystal.
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Source title: Journal Terahertz & Technology
Volume:4
Publication year:2011
Pages:132-136
Document type:Journal Online
Abstract: We generated widely tunable terahertz (THz) waves using difference-frequency generation (DFG) in a configurationally locked polyene (CLP) 2-[3-(4-hydroxystyryl)- 5, 5-dimethylcyclohex-2-enylidene]malononitrile (OH1) crystal. The two waves generated by a KTiOPO4 (KTP) optical parametric oscillator (OPO) were used to pump the OH1 crystal. The maximum output energy of the THz wave was 604 pJ/pulse. Widely tunable THz waves were successfully generated from 0.5 to 10 THz by using difference-frequency generation source.
Keywords: Nonlinear optical materials, Difference-frequency generation, OH1 crystal