

202.Title: Terahertz Generation in Nonlinear Crystals with Mid-Infrared CO2 Laser

Author: Lu, YZ; Wang, XB; Miao, LA; Zuo, DL; Cheng, ZH

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Abstract: The terahertz (THz) generation based on difference frequency generation in nonlinear optical crystals pumped by mid-infrared CO2 laser has been investigated. We present a comprehensive study of the phase-matching conditions in the GaSe, ZnGeP2 and GaAs crystals. A comparison of the characteristics of these crystals as the THz frequency generator is also presented. The investigation of the conversion efficiency shows that GaSe and GaAs are the most promising nonlinear crystals for the efficient and widely tunable THz generation.