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Title:Pump-enhanced optical parametric oscillator generating continuous wave tunable terahertz radiation
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Abstract:We demonstrate a tunable cw terahertz (THz) parametric oscillator based on periodically poled MgO-doped lithium niobate, directly converting the 1030nmpump wave into the THz regime. The tunability ranges from 1.2 to 2:9THz at output power levels between 0.3 and 3:9uW. To overcome the high pump threshold causedby THz absorption in the nonlinear crystal, we employ an enhancement cavity with a finesse of 500 at the pump wavelength. The intracavity pump threshold at 1:4THz is measured to be 350W for a crystal length of 2:5 cm.
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