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作者: Vijayraghavan, K (Vijayraghavan, Karun); Adams, RW (Adams, Robert W.); Vizbaras, A (Vizbaras, Augustinas); Jang, M (Jang, Min); Grasse, C (Grasse, Christian); Boehm, G (Boehm, Gerhard); Amann, MC (Amann, Markus C.); Belkin, MA (Belkin, Mikhail A.)
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摘要: We report room-temperature terahertz sources based on Cerenkov difference-frequency generation in dual-wavelength mid-infrared quantum cascade lasers with giant resonant optical nonlinearities originating from intersubband transitions. A Cerenkov difference-frequency generation scheme allows for extraction of THz radiation along the whole length of the laser waveguide and provides directional terahertz emission. Experimentally, our sources demonstrate a conversion efficiency of up to 70 mu W/W-2 approximately an order of magnitude improvement over the previous reports.
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地址: [Vijayraghavan, Karun; Adams, Robert W.; Jang, Min; Belkin, Mikhail A.] Univ Texas Austin, Dept Elect & Comp Engn, Austin, TX 78758 USA
[Vizbaras, Augustinas; Grasse, Christian; Boehm, Gerhard; Amann, Markus C.] Tech Univ Munich, Walter Schottky Inst, D-85748 Garching, Germany
通讯作者地址: Vijayraghavan, K (通讯作者),Univ Texas Austin, Dept Elect & Comp Engn, Austin, TX 78758 USA.
电子邮件地址: mbelkin@ece.utexas.edu
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