

# A continuous-wave optical parametric oscillator for mid infrared trace gas detection

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**Abstract:** We present a continuous-wave, pump-resonant, singly-resonant optical parametric oscillator in a linear dual-cavity design which is applied for photoacoustic trace gas detection between 2.35 and 3.75  $\mu\text{m}$ . An ethane detection limit of 110 ppt is achieved.

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