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【137】 Ring Interband Cascade Lasers Running in Continuous Mode Operation

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We present the first interband cascade lasers fabricated into ring-shaped cavities emitting in continuous wave operation. A second order distributed feedback grating is used for single mode emission and light outcoupling in vertical direction through the GaSb substrate. In addition, the implementation of an epitaxial-side down mounting scheme facilitates improved heat transport from the active region. The devices with a waveguide width of $\sim 5 \mu\text{m}$ and an outer diameter of $800 \mu\text{m}$ show light emission at a wavelength of $\sim 4.38 \mu\text{m}$. These newly developed devices are employed in a project for trace gas analysis via the principle of photothermal interferometry.

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