Quantum cascade semiconductor micro-cylinder laser

**OCR Number:** OCR 937

**Description:**

**Wide range of applications:**

- Compact portable sensors
- ACRs - components in integrated optical devices
- Medical diagnostic
- Environmental monitoring
- Telecommunications – long distance signal transmission

**Unique features:**

- Wavelength range: 3.5-13um
- **Very high optical power** >1W (1000 times more than diode laser operating at the same wavelength)
- Increased directionality
- **Small size** – entire QC system with laser active element and cooling elements – only a few cubic inches
- Relatively low cost
- Flattened quadrupolar resonator supports bow-tie lasing mode
Published/Issued Patents: [U.S. Patent No. 6,134,257](https://www.yale.edu),

Published/Issued Patents: [U.S. Patent No. 6,333,944](https://www.yale.edu)

Publications:

Figures – Science vol 280, 5 June 1998

Quantum Cascade lasers turn commercial – Jennifer Oullette, April May 2001 American Institute of Physics

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