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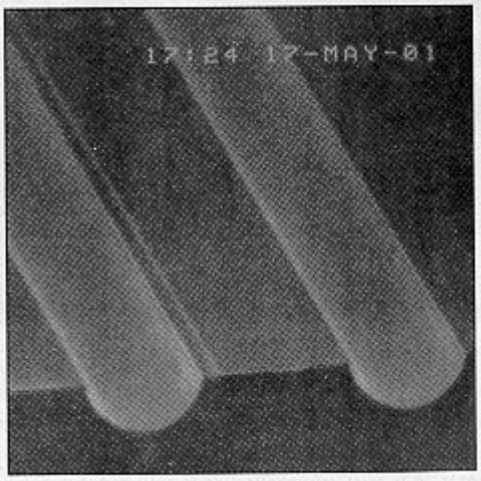
Presstime Bulletin

Mid-IR Quantum Cascade Laser Produces 3.5 W



A team of researchers at **Northwestern University** in Evanston, Ill., has demonstrated an InP-based quantum cascade laser that produces up to 3.5 W of 9.03-µm radiation at room temperature. The semiconductor device, which the group described in the June 3 issue of *Applied Physics Letters*, may find a place in such applications as free-space communications and environmental and chemical sensing.

The team fabricated the laser on N-doped InP using gas-source molecular beam epitaxy, with the 75-period waveguide core bounded by 0.3-µm-thick layers of GaInAs. In tests at 300 K, the laser displayed a peak power of 3.5 W per facet, an average power of 150 mW per facet and a threshold current density of 1.4 kA/cm^2.