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Scientists Unveil High-Power Mid-IR Laser

Commercially available lasers based on semiconductor compounds such as PbSn have proved suitable for applications requiring wavelengths in the mid-IR range. The only problem with these lasers is that the maximum power is often less than 1 mW.

In the latest development from the Center for Quantum Devices at **Northwestern University** in Evanston, Ill., researchers led by Manijeh Razeghi reported developing a high-power, mid-IR laser emitting at 3.4 μm . The device, which features a pulse power of 6.7 W, has a differential efficiency above 30 percent and far-field beam divergence narrower than 40°. To meet these thresholds, the scientists used an AlAsSb/InAsSb/InPAsSb/InAs semiconductor grown by low-pressure metal-organic chemical vapor deposition.