

Abstract Submitted
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High-Power, Single-Mode, Distributed-Feedback Interband Cascade Lasers for the Midwave-Infrared M. KIM, SFA INC, C.S. KIM, W.W. BEWLEY, C.L. CANEDY, J.A. NOLDE, J.R. LINDLE, I. VURGAFTMAN, J.R. MEYER, Naval Research Laboratory, CODE 5613 NAVAL RESEARCH LABORATORY TEAM — Narrow-ridge distributed-feedback interband cascade lasers with HR/AR coating have been fabricated using e-beam lithography followed by Ge lift-off. The quarter wavelength phase shift region has also been introduced near the HR coating facet to robust single mode operation with better wavelength control. Furthermore, amorphous Si layers have been deposited both sides of ridges to keep the single mode for wider ridge width ($\sim 13 \mu\text{m}$) by suppress the additional transverse modes. A single-mode output has been obtained at $T = 130 \text{ K}$ and $\lambda \approx 3.313 \mu\text{m}$.

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