'Applied Physics Letters' Releases New Article Authored by Razeghi & CQD Team

Her groups efforts demonstrate growth and characterization of long wavelength infrared type-II InAs/InAs1-xSbx superlattice photodiodes with a 50% cut-off wavelength at 8.0 μm on a GaSb substrate grown by metalorganic chemical vapor deposition.

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New research from Prof. Manijeh Razeghi’s


Her groups efforts at the Center for Quantum Devices (http://cqd.eecs.northwestern.edu/) (CQD) demonstrated growth and characterization of long wavelength infrared type-II InAs/InAs1-xSbx superlattice photodiodes with a 50% cut-off wavelength at 8.0 μm on a GaSb substrate grown by metalorganic chemical vapor deposition. At 77 K, the photodiodes exhibited a differential resistance at zero bias (R0A) of 8.0 Ω cm² and a peak responsivity of 1.26 A/W corresponding to a quantum efficiency of 21%. A specific detectivity of 5.4 × 10¹⁰ cm Hz¹/²/W was achieved at 7.5 μm. Her coauthors include: D. H. Wu (https://aip.scitation.org/author/Wu%2C2C+D+H), A. Dehzangi
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\[ D^* = R \left[ 2\pi f + \frac{4k_BT}{R \times A} \right]^{1/2} \]