

DEPARTMENT NEWS

'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/InAs_{1-x}Sbx superlattice photodiodes with a 50% cut-off wavelength at 8.0 μm on a GaSb substrate grown by metalorganic chemical vapor deposition.

JUN 13, 2018

New research from **Prof. Manijeh Razeghi's**



(<http://www.eecs.northwestern.edu/people/userprofile/mrazeghi2010>) has been published by '**Applied Physics Letters**' (<https://aip.scitation.org/journal/apl>) , titled, "**Demonstration of Long Wavelength Infrared Type-II InAs/InAs_{1-x}Sbx Superlattices Photodiodes on GaSb Substrate Grown by Metalorganic Chemical Vapor Deposition**" (<https://aip.scitation.org/doi/10.1063/1.5035308>) , in the **June 12, 2018 edition** (<https://aip.scitation.org/toc/apl/112/24?expanded=112>) (Volume 112, Issue 24) of the acclaimed journal.

Her groups' efforts at the Center for Quantum Devices (<http://cqdeecs.northwestern.edu/>) (CQD) demonstrated growth and characterization of long wavelength infrared type-II InAs/InAs_{1-x}Sbx 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 (R_{0A}) 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 Å⁻¹ cm Hz^{1/2}/W was achieved at 7.5 μm. Her coauthors include: D. H. Wu (<https://aip.scitation.org/author/Wu%2C+D+H>) , A. Dehzangi

(<https://aip.scitation.org/author/Dehzangi%2C+A>) , and **Y. Y. Zhang** (<https://aip.scitation.org/author/Zhang%2C+Y+Y>) of CQD.

Applied Physics Letters, published by the American Institute of Physics, features concise, up-to-date reports on significant new findings in applied physics. Emphasizing rapid dissemination of key data and new physical insights, *Applied Physics Letters* offers prompt publication of new experimental and theoretical papers bearing on applications of physics phenomena to all branches of science, engineering, and modern technology. Content is published online daily, collected into weekly online and printed issues (52 issues per year).



