

Abstract Submitted
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Optical Properties of Ge Nanowires Grown on Silicon (100) and (111) Substrates: Nanowire-substrate Heterointerfaces LEONID TSYBESKOV, BORIS KAMENEV, VARUN SHARMA, NJIT, THEODORE KAMINS, HPL — We report Raman scattering (RS) and photoluminescence (PL) measurements of (111) oriented Ge nanowires (NWs) grown by chemical vapor deposition on (100) and (111) silicon substrates. PL measurements strongly suggest that the observed high internal quantum efficiency emission originates at low-defect density Ge NW – Si substrate interfaces. A higher level of Si-Ge intermixing and strain has been detected for the Ge NW - (111) Si interface, while NWs grown on (100) Si substrates are relaxed.

Leonid Tsybeskov
NJIT

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