Enhancement of photoconductivity by carrier screening effect in n-GaSb/n-InAs/p-GaSb heterostructure with single deep quantum well

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n-GaSb/n-InAs/p-GaSb heterostructure with a single InAs QW was grown for the first time by MOVPE. Photocurrent spectra were obtained at reverse bias in the range from 0 to 0.8 V. It was shown that the photocurrent increases nonlinearly. The maximum of differential photoconductivity is archived at low applied voltage up to 0.2 V. This effect was explained by electrostatic screening of electrons localized in QW.

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