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**Simulation of time-resolved photoluminescence in the strongly disordered dilute nitride GaAsN** IVANA BOSHA, DERMOT MCPEAKE, Tyndall National Institute, University College Cork, Ireland, STEPHEN FAHY, Tyndall National Institute and Department of Physics, University College Cork, Ireland — We calculate the time-resolved photoluminescence spectra at finite temperatures in the dilute nitride GaAsN by direct numerical solution of the rate equation for the electron distribution. Electron energy levels and wave functions are calculated numerically in a supercell geometry with a strong random alloy potential acting on the electron. The rate equation includes phonon-assisted transitions between states, radiative and non-radiative recombination. Results are compared to experiments.

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