Homogeneous linewidth of single InGaAs quantum dot photoluminescence

Homogeneous linewidth of single InGaAs quantum dot photoluminescence
We have used m-photoluminescence spectroscopy with a spectral resolution of 20 meV to measure homogeneous linewidths of single emission lines within an inhomogeneously broadened ensemble of In0.5Ga0.5As/GaAs self-assembled quantum dots. At 10K, a distribution of linewidths peaking around 50 meV is found, which corresponds to a dephasing time of 26 ps. The shape of the linewidth distribution is similar for dots lying at the high and low-energy tail of the dot ensemble.

General information
State: Published
Organisations: Department of Photonics Engineering, Technical University of Dortmund
Contributors: Leosson, K., Langbein, W., Jensen, J. R., Hvam, J. M.
Publication date: 2000

Host publication information
Title of host publication: Proceedings, Nonlinear Optics and Excitation Kinetics in Semiconductors (NOEKS-2000)
Publisher: Wiley-VCH
Source: orbit
Source-ID: 173965
Research output: Research › Article in proceedings – Annual report year: 2000