Abstracts

The p-Ge terahertz laser-properties under pulsed- and mode-locked operation

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The results of a detailed study of the optical output of the p-Ge hot hole terahertz laser for pulsed-locked, as well as for mode-locked operation, is reported in this paper. The recently developed technique to achieve active mode locking is described. Results on the shape of the pulses in the small-signal gain, as well as in the saturated gain regime under mode-locked operation, are given. These will be discussed in the light of new results on time- and wavelength-resolved experiments for normal pulsed operation. Under favorable conditions, it is found that trains of pulses with a full width at half maximum pulsewidth of 100 ps can be produced.

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