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Saturation of absorption and gain with continuous-wave Cr⁴⁺: Fosferite laser in a quantum dot laser diode**Tierno Alessio**

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It was observed that saturation of absorption and gain in As/GaAs self-assembled quantum dots with a continuous-wave (cw), home-made chromium: Fosferite (Cr⁴⁺: Fr) laser that can deliver power up to 100 mW in the 1.24-1.28 μm range. The saturation, depending on wavelength detuning is observed for $I_{\text{sat}} = (1.4-4.5) \times 10^9 \text{ W/m}^2$ in absorption and $I_{\text{sat}} = (0.2-3.8) \times 10^9 \text{ W/m}^2$ in gain.

Biography

Tierno Alessio has completed his PhD degree in Physics from the University of Strathclyde, Glasgow, UK in 2010. He has been a Postdoctoral Fellow at the Nice Nonlinear Institute, France, ISMN-CNR Bologna (Italy) and University of Naples. His research interests include semiconductor ring laser dynamics and quantum dots. He has published more than 15 papers in reputed journals and currently he is working for ACEE Construction Company.

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