



PHOTONIC STRUCTURES FOR CARBON-DOT LASERS AND THERMAL EMITTERS

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The fabrication of multilayered planar structures reduces intrinsic errors and enables large area scalability and mass production of devices for photonics and thermophotovoltaics applications. Due to the underlying interferential processes within this type of structures, a wide variety of devices can be developed attending to the inherent losses, ϵ_2 , of the constituent materials. By tailoring this key feature, I will demonstrate the interest of planar architectures for photonic devices as diverse as environmentally friendly carbon-dot lasers emitting in the blue spectral range, and ultra-narrowband thermal emitters for industrial drying processes. Upon optimization, the results can be further implemented in highly selective infrared sensors or thermophotovoltaic cells.