

COHERENT THERMAL EMISSION IN MID INFRARED FROM A BILAYER STRUCTURE

Jérémie Dréville^{*}, Karl Joulain^{*} and Philippe Ben-Abdallah^{**}

^{*} Institut Pprime, CNRS-Université de Poitiers-ENSMA, Département Fluides, Thermique, Combustion, ESIP-Bâtiment de mécanique, 40, avenue du Recteur Pineau, F 86022 Poitiers, Cedex, France

^{**} Laboratoire de Thermocinétique, CNRS UMR 6607, Rue Christian Pauc-BP 50609, 44306 Nantes, France

ABSTRACT. Recent years, there has been an increased interest to the conception of micro/nanostructures with unusual radiative properties, especially thermal sources with temporal and/or spatial coherent emission. Such structures are indeed extremely interesting for energy conversion systems, radiative cooling devices,...The present study investigate numerically temporal coherent emission from a very simple structure composed with one stack of germanium and one of silicon carbide. Our investigation shows that, for well-defined thicknesses, this two-stack structure is able to emit in narrow spectral peak.