Contribution ID: **250** Type: **Talk**

【245】Electrical Excitation of Long-Range Surface Plasmons in Photonic Crystal/OLED Structure with Two Metal Nanolayers

Thursday, 2 September 2021 15:30 (15 minutes)

A current-driven source of long-range surface plasmons (LRSPs) on a duplex metal nanolayer is reported. Electrical excitation of LRSPs was experimentally observed in a planar structure, where an organic light-emitting film was sandwiched between two metal nanolayers that served as electrodes. To achieve the LRSP propagation in these metal nanolayers at the interface with air, the light-emitting structure was bordered by a one-dimensional photonic crystal (PC) on the other side. The dispersion of the light emitted by such a hybrid PC/organic-light-emitting-diode structure (PC/OLED) comprising two thin metal electrodes was obtained, with a clearly identified LRSP resonance peak.

Primary authors: Dr DMITRIEV, Artem (Frumkin Institute of Physical Chemistry and Electrochemistry RAS, Moscow; Russia); Dr LYPENKO, Dmitry (Frumkin Institute Of Physical Chemistry and Electrochemistry RAS); Dr SEKATSKI, Serguei (EPFL - EPF Lausanne); Dr ALIEVA, Elena (Institute of Spectroscopy RAS); Prof. DIETLER, Giovanni (EPFL); Dr KONOPSKY, Valery (Institute of Spectroscopy RAS); Dr PROKHOROV, Valery (Frumkin Institute of Physical Chemistry and Electrochemistry RAS)

Presenter: Dr SEKATSKI, Serguei (EPFL - EPF Lausanne)

Session Classification: Surfaces, Interfaces and Thin Films

Track Classification: Surfaces, Interfaces and Thin Films