Supplemental Document

Optical Materials EXPRESS

Transverse magneto-photonic transmission effect in non-symmetric nanostructures with comb-like plasmonic gratings: supplement

OLGA V. BOROVKOVA,[1,2,*] MIKHAIL A. KOZHAEV,[2] HISHAM HASHIM,[3,4] ANNA A. KOLOSOVA,[1,2] ANDREY N. KALISH,[1,2,5] SARKIS A. DAGESYAN,[1] ALEXANDER N. SHAPOSHNIKOV,[6] VLADIMIR N. BERZHANSKY,[7] AND VLADIMIR I. BELOTELOV[1,2]

[1]*Lomonosov Moscow State University, Leninskie Gory, 1 bld.2, 119991 Moscow, Russia*
[2]*Russian Quantum Center, Novaya str. 100, Skolkovo, Moscow Region 143025, Russia*
[3]*Physics Department, Faculty of Science, Tanta University, 31527 Tanta, Egypt*
[4]*Immanuel Kant Baltic Federal University, Kaliningrad 236004, Russia*
[5]*NTI Center for Quantum Communications, National University of Science and Technology MISiS, Leninsky prospekt 4, Moscow 119049, Russia*
[6]*Research Center for Functional Materials and Nanotechnologies, V.I. Vernadsky Crimean Federal University, 295007 Simferopol, Russia*
[7]*Department of Experimental Physics, V.I. Vernadsky Crimean Federal University, 295007 Simferopol, Russia*
[*]*borovkova@physics.msu.ru*

Supplement DOI: https://doi.org/10.6084/m9.figshare.17942552

Parent Article DOI: https://doi.org/10.1364/OME.447207

Supplementary Materials of The Transverse Magneto-Photonic Transmission Effect in Non-Symmetric Nanostructures with Comb-like Plasmonic Gratings

OLGA V. BOROVKOVA,[1,2,*] MIKHAIL A. KOZHAEV,[2] HISHAM HASHIM,[3,4] ANNA A. KOLOSOVA,[1,2] ANDREY N. KALISH,[1,2,5] SARKIS A. DAGESYAN,[1] ALEXANDER N. SHAPOSHNIKOV,[6] VLADIMIR N. BERZHANSKY,[7] AND VLADIMIR I. BELOTELOV[1,2]

[1]*Lomonosov Moscow State University, Leninskie Gory, 1 bld.2, 119991, Moscow, Russia*
[2]*Russian Quantum Center, Novaya str. 100, Skolkovo, Moscow Region 143025, Russia*
[3]*Physics Department, Faculty of Science, Tanta University, 31527, Tanta, Egypt*
[4]*Immanuel Kant Baltic Federal University, Kaliningrad 236004, Russia*
[5]*NTI Center for Quantum Communications, National University of Science and Technology MISiS, Leninsky prospekt 4, Moscow 119049, Russia*
[6]*Research Center for Functional Materials and Nanotechnologies, V.I. Vernadsky Crimean Federal University, 295007, Simferopol, Russia*
[7]*Department of Experimental Physics, V.I. Vernadsky Crimean Federal University, 295007, Simferopol, Russia*
[*]*borovkova@physics.msu.ru*

1. Experimental results

The measured transmission (left column) and the TMPTE (right column) spectra are given in Fig. 1. The angular and wavelength resolved transmission spectra do not provide significant differences for the structures with various magnitudes of the parameter d_2, the depth of the lateral modulation of the comb-like grating. On the contrary the TMPTE spectra allows to track the changes of the MO response versus the asymmetry of the nanostructure.

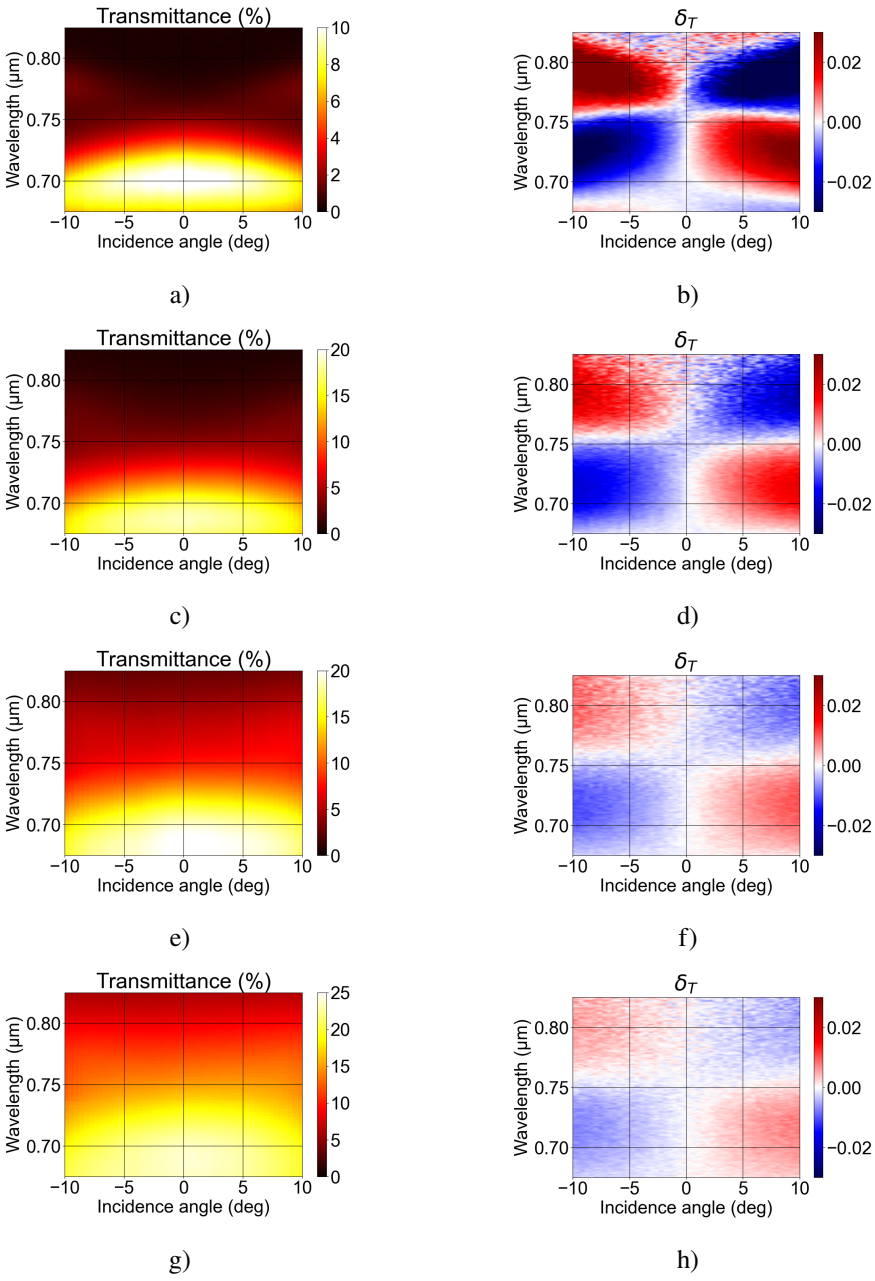

Fig. 1. Angular and wavelength resolved transmission and δ_T spectra of the (a,b) symmetric and (c-h) asymmetric comb-like plasmonic gratings. The period of all gratings is 285 nm, parameter d_1 = 205 nm, and the modulation depth d_2 = 0 (a,b), d_2 = 75 nm (c,d), d_2 = 125 nm (e,f), d_2 = 155 nm (g,h).