

“Electrodynamical analysis of a transmissive metal-dielectric microstructure by the method of single expression”

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Abstract – Transmissive properties of planar metal-dielectric (Ag-GaN) microstructures are analysed via numerical simulation by the method of single expression (MSE). Brief description of MSE is presented. Conditions of high transmittance are obtained for four-fold metal-dielectric (Ag-GaN) bilayers plus a metallic layer, with and without antireflection coatings. Spectral characteristics of metal-dielectric microstructures in the visible range are obtained by taking into account dispersion properties of Ag layers. The distributions of electric field amplitude and power flow density along the metal-dielectric (Ag-GaN) microstructure are analysed and presented at maximal and minimal transmittance.