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Coupling of photonic, plasmonic and electric effects in metal nanostructures NATALIA NOGINOVA, VINCENT RONO, Norfolk State University — Strong photon drag was observed in thin metal films and nanostructures, with the maximum of the effect at plasmon resonance conditions. To better understand mechanism of the effect and explore the possibility to control it with nanoscale geometry, we studied photoinduced currents in gold films and nanomesh structures in the dependence on the wavelength and period of nanostructure. We showed that nanostructuring of the surface lead to significant (50-fold) increase in the magnitude of the effect. Results are discussed in terms of coupling of optical, plasmonic and electric effects

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