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Alexander O. Korotkevich*, L.D. Landau Institute for Theoretical Physics, Moscow, 119334, Russia, and **Ildar R. Gabitov** and **Andrey I. Maimistov**. *Solitary waves in plasmonic Bragg gratings*.

Light propagation in a Bragg periodic structure containing thin films with metallic nanoparticles is studied. Plasmonic resonance frequency, Bragg frequency, and light carrier frequency are assumed to be close. Exact solutions describing solitary gap-waves are found, and a light arrest phenomenon due to nonlinearity of plasmonic oscillations is studied. (Received August 20, 2007)