

OPTICAL PROPERTIES OF METAL
COMPOSITES WITH DOUBLE-LAYER
INCLUSIONS

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S u m m a r y

The nonlinear (in the applied electric field) effective dielectric function of the matrix disperse system (MDS) that consists of a continuous matrix and randomly distributed double-layer spherical inclusions. Kerns of inclusions is the Kerr type nonlinear dielectric with a metal shell. We obtained the local field in the kern and studied a type of the optic bistability. The general relations for calculation of the nonlinear Kerr coefficient of MDS at arbitrary concentration of inclusions are derived as well. The study is carried out in the long wave approximation.