Abstract Submitted
for the MAR08 Meeting of
The American Physical Society

Femtosecond laser-induced black metals ANATOLIY VOROBYEV, CHUNLEI GUO, University of Rochester — Metals are one of the most commonly used materials in everyday life. One of the intrinsic properties of nearly all metals is that they are highly reflective for electromagnetic waves. Recently, by treating metal surfaces with high-intensity femtosecond laser pulses, we turned highly reflective metals highly absorptive and created, for the first time, "black metals". We also investigated the surface features for metal blackening and characterized the spectral responses of the black metals from UV to IR. The black metals promise potential for a variety of technologically important applications.

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Date submitted: 05 Dec 2007 Electronic form version 1.4