Abstract Submitted
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Laser-diffraction-assisted ordering effects in nano-quasipercolated silver thin films. E. HARO-PONIATOWSKI, Universidad A. Metropolitana Iztapalapa Mexico, J. C. ALONSO-HUITRON, IIM-UNAM-Mexico, C. ACOSTA-ZEPEDA, M. C. ACOSTA-GARCIA, N. BATINA, Universidad A. Metropolitana Iztapalapa — Nanostructured silver thin films in a quasipercolated state are used as the starting morphology for inducing changes in shape and ordering effects by pulsed laser irradiation with a Nd:YAG laser (355 nm) [1,2]. The complex nanostructures are transformed into nanospheres which in turn are ordered in regular patterns when irradiated through a diffractive element such as a slit or a pinhole. The samples are deposited onto TEM grids by the pulsed laser deposition technique. These transformations are subsequently characterized by transmission electron microscopy and by atomic force microscopy. The observed effects are explained using Fresnel diffraction theory. Excellent agreement with the experimental results are obtained. [1] E. Haro-Poniatowski et al. Appl. Phys. Lett. 87, 143103, 2005 [2] E. Haro-Poniatowski et al. Radiation Effects & Defects in Solids 162, 491-499 (2007)

E. Haro-Poniatowski
Universidad A. Metropolitana Iztapalapa Mexico

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