Title	**Optical trap assisted laser nanostructuring in the near-field of microparticles**
Authors	Ulf Quentin,Karl-Heinz Leitz, Lutz Deichmann, lya Alexeev[c]and Michael Schmidt
Publication	J. Laser Appl., Vol. 24, No. 4, July 2012
Abstract	Particle based near-field nanostructuring is an excellent possibility to overcome the optical diffraction limit in laser based material processing. In the near-field of microspheres which are irradiated with pulsed laser radiation, it is possible to generate nanoholes with diameters below 100 nm using a laser wavelength of 800 nm. To improve this approach, it is possible to position the microparticles with an optical trap to generate arbitrary structure geometries. In this paper, the authors describe the basic principle of optical trap assisted nanostructuring and present simulational and experimental results demonstrating the potential of this innovative nanoscale optical material processing technology.
Laser Quantum Product	finesse
Institute	Photonic Technologies, University of Erlangen-Nuremberg, Erlangen, Germany
Notes	Please contact for the full paper (3MB)