Electronic Supplementary Information to the paper entitled

High rate laser deposition of conductive copper microstructures from the deep eutectic solvents

Experimental details

The obtained deep eutectic solvents were heated up to 50 ^{o}C in drying cabinet. 100 μL of DES was placed on a hot glass substrate 20x20 mm and the film was created using the spin coating method at 2500 rpm (system spinNXG) for 1 minute. After that glass substrate was fixed in a vertical position and copper was deposited under the action of laser irradiation. For this diode-pumped solid-state Nd:YAG laser with continuous wave 532 nm was applied. The output from laser is divided into two parts. The first portion is focused on a region between DES and a dielectric substrate and the second portion of output is sent to the web-camera used for in situ monitoring the laser-induced metal deposition process. At the focal point position the DES film with dielectric substrate was vertically moved by motorized stage at the speed of 0.16 to 1.6 mm s−1 (POLIKOR VK-96). In order to optimize metal deposition process and determine initiation threshold, i.e. minimum laser radiation density value at which deposition of metallic structures starts, the laser output power was varied from 100 to 2000 mW. The power measurements were done using a LPM-905 power meter.