

O 88: Poster Session - Nanostructures at Surfaces: Other Aspects

Time: Wednesday 18:15–20:00

Location: P2/10G

O 88.1 Wed 18:15 P2/10G

Fabrication of metallic microstructures on optical fibers —
•ALEXANDER FASSBENDER and STEFAN LINDEN — Physikalisches Institut, Rheinische Friedrich-Wilhelms-Universität Bonn, Nußallee 12, D-53115 Bonn

We report on the fabrication of microstructured gold electrodes on the end facet of a single mode fiber. The basic idea is to use 3D direct laser writing based on multi-photon absorption to print microstructured sleeves, in which the cleaved optical fiber is inserted. Next, the

optical fiber as well as the sleeve are metalized by thermal evaporation of gold or copper. The apertures in the sleeve define the electrodes during the evaporation process. In order to connect four electrodes on the end-facet with bond pads on the side of the fiber, we utilize two specially designed sleeve-structures and perform several evaporation runs from different directions. In- and outcoupling of light is not affected by the electrodes, since the core is protected by the sleeves. We envision that our microstructured fibers can be employed to realize compact ion traps.