

## **Design of titania nanotube structures by focused laser beam writing**

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### **Abstract**

Matrices of titania nanotubes (TiO<sub>2</sub> NTs) have been prepared by anodization of Ti foils in ethylene glycol based electrolyte. These matrices were subjected to annealing at various temperatures or exposed to a focused laser beam and were characterized by transmission electron microscopy (TEM), micro-cathodoluminescence (CL) and Raman scattering (RS) spectroscopy. The obtained data demonstrate possibilities to control the crystallographic structure of TiO<sub>2</sub> NTs by means of focused laser beam writing. These findings open novel prospects for the design and fabrication of titania nanotube structures.

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