



Applied Surface Science

Volume 658, 15 June 2024, 159869

Full Length Article

Nanopatterning of thin amorphous vanadium oxide films by oxidation scanning probe lithography

A.I. Komonov  , N.D. Mantsurov, B.V. Voloshin, V.A. Seleznev, S.V. Mutilin[Show more](#)  Share  Cite<https://doi.org/10.1016/j.apsusc.2024.159869> [Get rights and content](#) 

Highlights

- The o-SPL method was used to form water-soluble V_2O_5 nanostructures on the surface of amorphous vanadium oxide thin films.
- An increase in voltage during o-SPL leads to the formation of larger V_2O_5 nanostructures with lower bulk density.
- The height increase of formed nanostructures follows a logarithmic time dependence.
- Nanohole arrays with depth down to 0.3 nm were formed by removing V_2O_5 in water.

Abstract