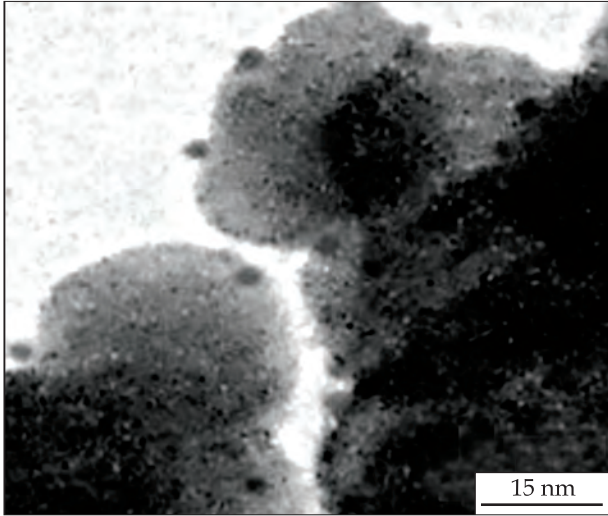


TECHNOLOGY FOR OBTAINING PHOTSENSITIVE AND PHOTOCATALYTIC OXIDE NANOPOWDERS



Photosensitive nanopowder
 $\text{Ag}(\text{Ag}_2\text{O}) - \text{ZrO}_2 - 3 \text{ mol } \% \text{Y}_2\text{O}_3$

Areas of Application

This technology is used to produce composite oxide powders for photocatalytic purification of air and water

Specification

Phase composition: as required.

Chemical composition: as required.

Particle size, nm

$d = 10 - 300$

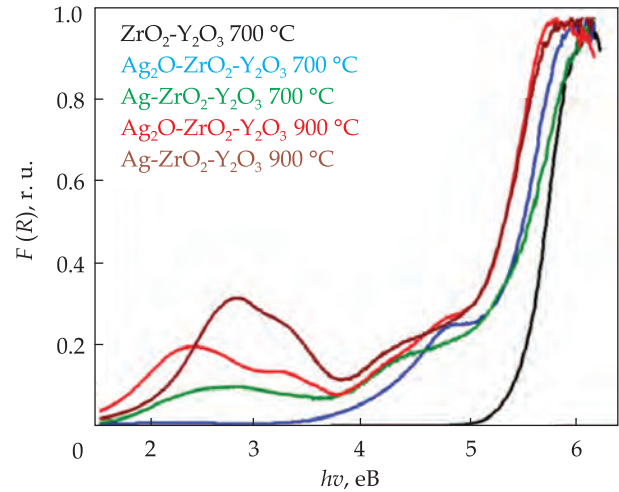
Specific surface area, m^2/g

$120 - 10$

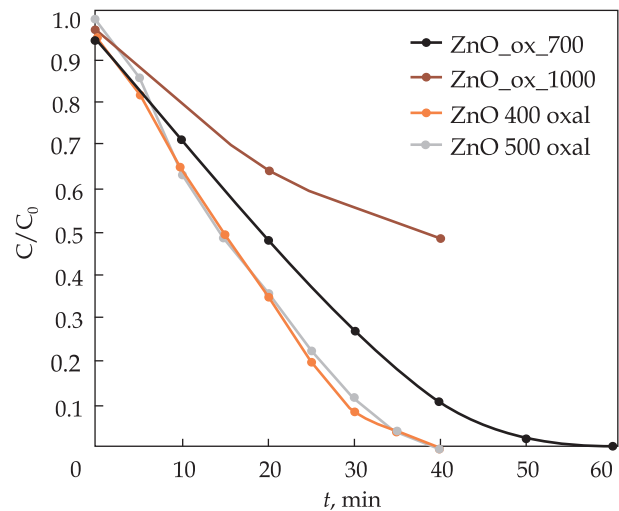
Advantages

This technology is simpler in terms of hardware solutions as compared with the analogs. The physical actions essentially reduce drying time and decrease the aggregation of nanoparticles, so that no grinding is required.

The proposed technology enables to widen the range of powder chemical compositions without significant modifications of production and to control the nanopowder dispersion



Optical properties of nanopowder
 $\text{Ag}(\text{Ag}_2\text{O}) - \text{ZrO}_2 - 3 \text{ mol } \% \text{Y}_2\text{O}_3$



Photocatalytic properties of ZnO nanopowder

Stage of Development.
 Suggestions for Commercialization

IRL3, TRL6
 Joint venture

IPR Protection
 IPR1

Contact Information

Dmytro V. Raspornia, Donetsk Institute for Physics and Engineering named after O.O. Galkin of the NAS of Ukraine; +38 050 206 92 21, e-mail: diaprintster@gmail.com