11th EUROPEAN EXHIBITION OF CREATIVITY AND INNOVATION

"EUROINVENT"

21-23 May 2020, Iaşi - România

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PROCESS FOR OBTAINING THE $CuO-Fe_2O_3$ NANOWIRE NETWORK

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Scopul:

The aim of the invention is to produce nanowire networks by heat treatment in the environment, which can be applied to the manufacture of gas sensors.

Patent Application No. entry: 1917 from 05.06.2019

Soluție:

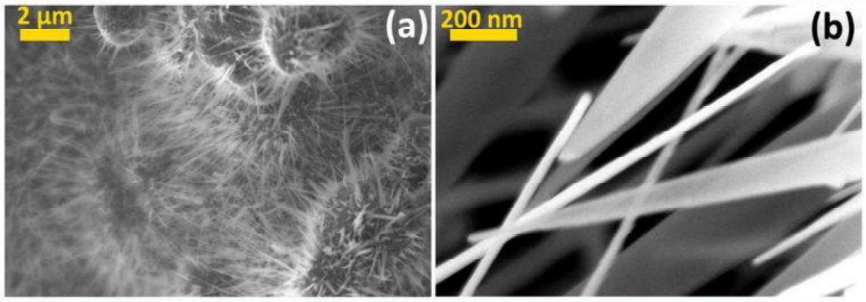
Simplification of the procedure for obtaining the $CuO-Fe_2O_3$ nanowire network by thermal oxidation in air at 425 °C for 4 hours and the initial programming of the composition of this mixture in a certain proportion.

Avantaje:

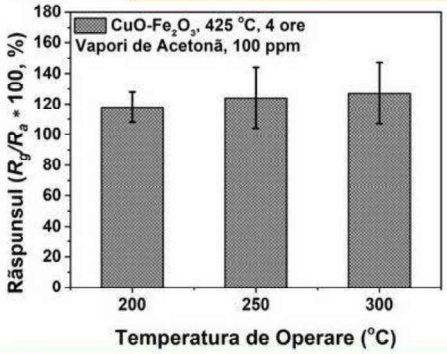
- Procedure for obtaining simplified;
- Thermal oxidation in air at relatively low temperatures (425 °C);
- The possibility to program the composition of the mixture of Cu and Fe;
- Possibility of initial adjustment of the amount of nanowires in CuO and Fe_2O_3;
- The practical application of the $CuO-Fe_2O_3$ nanowire network as acetone sensor structures.

Stadiul:

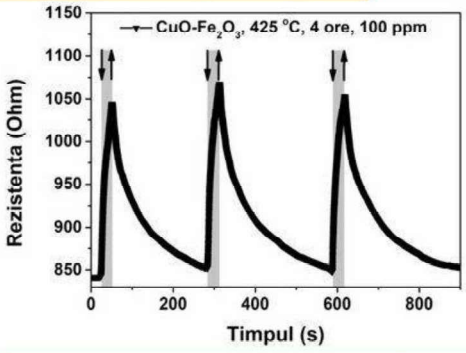
Laboratory-level sensor structures based on CuO and Fe_2O_3 nanowires.



SEM images of the $CuO-Fe_2O_3$ nanowire network



Sensor response to acetone vapors



Dynamic response to acetone

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