

## Ֆիզիկայի գիտահետազոտական ինստիտուտ

Նյութագիտության և նանոտեխնոլոգիաների գիտական կենտրոն  
Ավագ ճարտարագետ

## Publications

### Article

#### **Ultra-high selective hydrogen peroxide vapor sensor based on the Fe<sub>2</sub>O<sub>3</sub>/MWCNTs nanocomposite**

Artak Sayunts, Rima Papovyan, Gevorg Shahkhatuni, Zarine Simonyan, Davit Kananov,

Gabriel Gevorgyan, Dušan Kopecký, Mikayel Aleksanyan

International Journal of Smart and Nano Materials 2026 2637516

<https://www.tandfonline.com/doi/full/10.1080/19475411.2026.2637516>

### Article

#### **Study of a Flexible ZnO/MWCNTs Thin Film Sensor for Hydrogen Peroxide Vapor Detection by Impedance Spectroscopy**

Gohar Shahnazaryan, Artak Sayunts, Gevorg Shahkhatuni, Rima Papovyan, Zarine Simonyan,

Gabriel Gevorgyan, Andranik Grigoryan, Dušan Kopecký, Mikayel Aleksanyan

Nanotechnology Science and Applications 2026 577983

<https://doi.org/10.2147/nsa.s577983>

### Article

#### **Enhanced Humidity Sensing Performance of Fe<sub>2</sub>O<sub>3</sub>:ZnO/MWCNTs Nanocomposite: Fabrication and Characterization**

Artak Sayunts, Gevorg Shahkhatuni, Rima Papovyan, Zarine Simonyan, Davit Kananov,

Gohar Shahnazaryan, Gabriel Gevorgyan, Andranik Grigoryan, Dušan Kopecký, Mikayel Aleksanyan

ACS Omega 2026 31627-31638

<https://doi.org/10.1021/acsomega.6c02389>

### Article

#### **SnO<sub>2</sub>/MWCNTs Nanostructured Material for High-Performance Acetone and Ethanol Gas Sensors**

Mikayel Aleksanyan, Artak Sayunts, Gevorg Shahkhatuni, Zarine Simonyan, Davit Kananov,

Emma Khachaturyan, Rima Papovyan, Alena Michalcová, Dušan Kopecký

ACS Omega 2025 7283-7294

### Article

#### **Study of a Nanostructured Co-Doped SnO<sub>2</sub> Sensor for Hydrogen Peroxide Vapor Detection Using Impedance Spectroscopy**

Gohar Shahnazaryan, Mikayel Aleksanyan, Artak Sayunts, Zarine Simonyan, Rima Papovyan,

Gevorg Shahkhatuni

ACS Omega 2025 14452 - 14465

### Article

#### **Fabrication and Characterization of MWCNTs Decorated ZnO Nanograins Based Sensor for**

**Enhanced Performance Toward CO<sub>2</sub> Gas**

Mikayel Aleksanyan, Artak Sayunts, Gevorg Shahkhatuni, Zarine Simonyan, Davit Kananov,  
Rima Papovyan, Dušan Kopecký

Advanced Materials Interfaces 2025 2500185

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*Article***Influence of the Growth Parameters on RF-Sputtered CNTs and Their Temperature-Selective Application in Gas Sensors**

Mikayel Aleksanyan, Artak Sayunts, Gevorg Shahkhatuni, Zarine Simonyan, Davit Kananov,  
Rima Papovyan, Dušan Kopecký

ACS Omega 2025 34733–34746

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*Article***Highly Sensitive Ammonia Gas Sensor Based on MWCNTs Saturated Fe<sub>2</sub>O<sub>3</sub> Nanograins**

Mikayel Aleksanyan, Artak Sayunts, Gevorg Shahkhatuni, Zarine Simonyan, Davit Kananov,

Andranik Grigoryan, Rima Papovyan, Dušan Kopecký

Langmuir 2025 26614–26627

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*Conference***Fabrication and Characterization of CO<sub>2</sub> Sensor Using ZnO Nanograins**

M. Aleksanyan, G. Shahkhatuni, Z. Simonyan, G. Shahnazaryan, R. Papovyan, D. Kananov, A. Grigoryan,  
G. Gevorgyan, G. Stepanyan, A. Sayunts

2025 307-308

<https://www.smsi-conference.com/>

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