

## Publications

---

*Article*

**Formation of zinc oxide composites of doxycycline with high antibacterial activity based on DC-magnetron deposition of ZnO nanoscale particles on the drug surface**

Ashkhen L. Zatikyan, Armen I. Martiryan, Emma R. Arakelova, Ashot M. Khachatryan, Anait A. Mirzoian, Susanna L. Grigoryan, Rafayel E. Muradyan, Hrachik R. Stepanyan, Stepan G. Grigoryan,

Mkrtich A. Yeranosyan

Applied Physics A: Materials Science and Processing 2024 152

---

*Article*

**E-beam induced micropattern generation and amorphization of L-cysteine-functionalized graphene oxide nano-composites**

Y. Melikyan, H. Gharagulyan, A. Vasil'ev, V. Hayrapetyan, M. Zhezhu, A. Simonyan, D.A. Ghazaryan, M.S. Torosyan, A. kharatyan, J. Michalicka, M. Yeranosyan

Colloids and Interface Science Communications 2024 100766-7

---

*Article*

**Effect of Silica Fume Concentration and Water-Cement Ratio on the Compressive Strength of Cement-Based Mortars**

Maria M. Badalyan, Nelli G. Muradyan, Roza S. Shainova, Avetik A. Arzumanyan, Marine A. Kalantaryan, Rafayel R. Sukiasyan, Mkrtich Yeranosyan, David Laroze, Yeghiazar V. Vardanyan, Manuk G. Barseghyan

Buildings 2024 757

---

*Article*

**Improving the electro-optical properties of MoS<sub>2</sub>/rGO hybrid nanocomposites using liquid crystals**

A. Vasil'ev, Y. Melikyan, M. Zhezhu, V. Hayrapetyan, M.S. Torosyan, D.A. Ghazaryan, M. Yeranosyan,

H. Gharagulyan

Materials Research Bulletin 2024 113036

---

*Article*

**Broadband THz metasurface bandpass filter/antireflection coating based on metalized Si cylindrical rings**

Karen Simonyan, Hermine Gharagulyan, Henrik Parsamyan, Ashot Khachatryan, Mkrtich Yeranosyan

Semiconductor Science and Technology 2024 095012

---

*Article*

**Essential L-Amino Acid-Functionalized Graphene Oxide for Liquid Crystalline Phase Formation**

H. Gharagulyan, Y. Melikyan, V. Hayrapetyan, Kh. Kirakosyan, D.A. Ghazaryan, M. Yeranosyan

Materials Science and Engineering: B 2023 116564

---

*Article*

**ՆԱՆՈՒԵԽՆՈՂՈՎԻԱՆԵՐՆ ԱՐՄԱՏՈՒԿԱԿԱՆ ՖՈՒՆԴՄԵՆՏԻ ԵՆ ԵՐԿՐՆԵՐԻ ՉԱՉՄԱՎԱՐԱԿԱՆ  
ԱՌՈՂՆԱԿԵՐԹՈՒԹՅՈՒՆՆԵՐԸ**

Մկրտիչ Երանոսյան

Գիտության աշխարհում 2023 34-41

---

*Article*

**The Use of Biosilica to Increase the Compressive Strength of Cement Mortar: The Effect of the Mixing Method**

Nelli G. Muradyan, Avetik A. Arzumanyan, Marine A. Kalantaryan, Yeghiazar V. Vardanyan,

Mkrtich Yeranossyan, Malgorzata Ulewicz, David Laroze, Manuk G. Barseghyan

MATERIALS 2023 5516

---

*Article*

**Antibacterial activity of royal jelly-mediated green synthesized silver nanoparticles**

Susanna Gevorgyan, Robin Schubert, Mkrtich Yeranossyan, Lilit Gabrielyan, Armen Trchounian,

Kristina Lorenzen, Karen Trchounian

AMB Express 2021 51

---

*Article*

**Zinc Oxide Composites of Doxorubicin in the Form of Coating, Composite Films and Gels with a High Antitumor Activity and Low Toxicity**

Emma R. Arakelova, Stepan G. Grigoryan, Ashot M. Khachatryan, Anahit A. Mirzoian, Zoya M. Farmazyan,

Susanna L. Grigoryan, Mkrtich A. Yeranossyan, Flora G. Arsenyan, Rafayel E. Muradyan,

Hrachik V. Gasparyan

Electronic Journal of Natural Sciences of NAS RA 2019 61-73

---

*Article*

**Energy loss rate of hot electrons due to polar-optical phonon modes in a semiconductor nanowire under transverse electric field**

A. Stepanyan, A. Asatryan, M. Yeranossyan, K. Vardanyan, A. Kirakosyan, A. Vartanian

Physica B: Condensed Matter 2018 340-346

---

*Article*

**Energy-loss rate of hot electrons due to confined acoustic phonon modes in a semiconductor quantum wire under transverse electric field.**

A. Stepanyan, M. Yeranossyan, L. Vardanyan, A. Asatryan, A. Kirakosyan, A. Vartanian

Physica B: Condensed Matter 2017 102-107

<http://www.journals.elsevier.com/physica-b-condensed-matter>

---

*Article*

**Influence of spin-orbit interactions on the polaron properties in wurtzite semiconductor quantum well**

Mkrtich A. Yeranossyan, Arshak L. Vartanian, Karen A. Vardanyan

Physica E: Low-dimensional Systems and Nanostructures 2016 330-335

<http://www.journals.elsevier.com/physica-e-low-dimensional-systems-and-nanostru...>

---

*Article*

**Phonon confinement effect on the polaron states in a double quantum ring structure in the presence of electric and magnetic fields**

Mkrtich A. Yeranosyan, Arshak L. Vartanian, Abbas Shahbandari, Albert A. Kirakosyan

Physica B: Condensed Matter 2015 365-370

<http://www.journals.elsevier.com/physica-b-condensed-matter>

---

*Conference*

**Spin-orbit interaction enhanced polaron effect in wurtzite semiconductor quantum well.**

M.A. Yeranosyan, K.A. Vardanyan, A.L. Vartanian, A.A. Kirakosyan

---

*Conference*

**Effect of Rashba and Dresselhaus spin-orbit interactions on the polaron properties in wurtzite semiconductor quantum dot in the presence of external fields.**

M.A. Yeranosyan, K.A. Vardanyan, A.L. Vartanian, A.A. Kirakosyan

---

*Conference*

**The influence of the transverse electric field on the hot electron energy loss rate via polar-optical phonons in nanowires**

A.Asatryan, A.Stepanyan, M.Yeranosyan, A.Kirakosyan, A.Vartanian

---

*Conference*

**Investigation of Antibacterial Properties of Green Synthesized Silver Nanoparticles**

S. Gevorgyan, M. Yeranosyan, R. Schubert, A. Trchounian

---

*Conference*

**Filtering of terahertz radiation by a metasurface structure**

Simonyan Karen, Parsamyan Henrik, Gharagalyan Hermine, Khachatryan Ashot, Yeranosyan Mkrtich

---

*Conference*

**Stability Controlling of L-arginine- and L-nitroarginine-Functionalized Graphene Oxide**

Yeghvard MELIKYAN, Alexey VASIL'EV, Marina ZHEZHU, Elen MNATSAKANYAN, Deren PETROSYAN,

Mkrtich YERANOSYAN, Ruben APREYAN, Hermine GHARAGULYAN

---

*Conference*

**Royal Jelly in the Development of Nano-strategies against Pathogenic Bacteria**

S. Gevorgyan, M. Yeranosyan, R. Schubert, A. Trchounian

---