

## Ֆիզիկայի ինստիտուտ

Մոլեկուլային ֆիզիկայի ամբիոն

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### **Two-dimensional pair-interacting hole gas thermodynamics: Exactly solvable Moshinsky model for lens-shaped quantum dots**

Y.S. Mamasakhlisov, M.A. Mkrtchyan, D.B. Hayrapetyan, S. Baskoutas, H.A. Sarkisyan

Heliyon 2024 e34762

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### **Sequence disorder-induced first order phase transition in confined polyelectrolytes**

Y.Sh. Mamasakhlisov, V.F. Morozov, V. Stepanyan, A. Badasyan, R. Podgornik

Journal of Chemical Physics 2024 134906

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### **Pair-Interacting Heavy Holes Gas in a Strongly Prolate Ellipsoidal Quantum Dot: Thermodynamic Properties [Парно-взаимодействующий газ тяжелых дырок в сильно-вытянутой эллипсоидальной квантовой точке: термодинамические свойства]**

Y. S. Mamasakhlisov, M. A. Mkrtchyan, H. A. Sarkisyan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2023 391–396

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### **Computational Design of Gas Sensors Based on V3S4 Monolayer**

Hayk A. Zakaryan, Misha A. Aghamalyan, Yevgeni Sh. Mamasakhlisov, Ilya V. Chepkasov,

Ekaterina V. Sukhanova, Alexander G. Kvashnin, Anton M. Manakhov, Zakhar I Popov,

Dmitry G. Kvashnin

Nanomaterials 2022 774

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### **Adsorption of Hydrogen Peroxide on Two-Dimensional Transition Metal Chalcogenides**

M. A. Aghamalyan, V. M. Aroutiounian, E. S. Mamasakhlisov, E. V. Sukhanova, A. G. Kvashnin, Z. I. Popov,

A. A. Zakaryan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2022 170-173

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Y. Sh. Mamasakhlisov, A.H. Poghosyan

Colloids and Surfaces A: Physicochemical and Engineering Aspects 2022 128681

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### **Spectroscopic Study of Protein Complexes with Low-Molecular Compounds**

P.O. Vardevanyan, M.A. Shahinyan, N.H. Petrosyan, Y.Sh. Mamasakhlisov

Journal of Contemporary Physics (Armenian Academy of Sciences) 2021 60-64

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**A molecular dynamics study of protein denaturation induced by sulfonate-based surfactants**

Yevgeni S. Mamasakhlisov, Armen H. Poghosyan, Aram A. Shahinyan, Gayane R. Kirakosyan,

Naira M. Ayvazyan, Garegin A. Papoian

Journal of Molecular Modeling 2021 261

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**Cold denaturation of RNA secondary structures with loop entropy and quenched disorder**

Yevgeni Mamasakhlisov, Flavio Iannelli, Roland R Netz

Physical Review E 2020 012502(1-14)

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**Statistical mechanics of DNA-nanotube adsorption**

Yevgeni Mamasakhlisov, Shushanik Tonoyan, Davit Khechoyan, Artem Badasyan

Physical Review E 2020 062422(1-5)

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Y.S. Mamasakhlisov, V.F. Morozov, S.A. Tonoyan, E.M. Kazaryan, A.Y. Mamasakhlisov

Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 87-93

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Stepanyan V. A., Hayrapetyan A. A., Mamasakhlisov E.S

Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 254-258

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**Differential Melting Curves in Heterogeneous Biopolymers**

V. F. Morozov, A. Y. Mamasakhlisov, A. Asatryan

Journal of Contemporary Physics (Armenian Academy of Sciences) 2020 259-264

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**THE CONDUCTIVITY OF THE MONOLAYER OF COMPLEXES OF DNA WITH QUANTUM DOTS IN THE PRESENCE OF INTERCALATING LIGANDS**

Ye. Sh. MAMASAKHLISOV, A. Ye. MAMASAKHLISOV

Proceedings of the YSU A. Physical and Mathematical Sciences 2019 203-207

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**The double-stranded DNA stability in presence of a flexible polymer**

Yevgeni Mamasakhlisov, Hakob Sngryan, Shushanik Tonoyan, Artur Hakobyan, Poghos Vardevanyan

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**Sensitivity of DNA Sensors in the Presence of Charged Ligands**

Sh.A. Tonoyan, A.A. Hakobyan, A.K. Andreassian, V.F. Morozov, Y.Sh. Mamasakhlisov

Journal of Contemporary Physics (Armenian Academy of Sciences) 2018 179-186

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A.V. Asatryan, A.K. Andriasyan, A.A. Hakobyan, Sh.A. Tonoyan, Y.Sh. Mamasakhlisov, V.F. Morozov  
Proceedings of the YSU A. Physical and Mathematical Sciences 2018 47-54

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**Переход порядок-беспорядок в гетерогенных биологических макромолекулах**

A.V. Asatryan, A.K. Andriasyan, Sh.A. Tonoyan, E.Sh. Mamasakhlisov, V.F. Morozov

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**AN INTEGRATED WEB-BASED INTERACTIVE DATA PLATFORM FOR MOLECULAR DYNAMICS SIMULATIONS**

HRACHYA ASTSATRYAN, WAHI NARSISIAN, ELIZA GYULGYULYAN, VARDAN BAGHDASARYAN,  
ARMEN POGHOSYAN, YEVGENI MAMASAKHLISOV, PETER WITTENBURG

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**Effect of ligands binding on the isotherm of hybridization of the DNA-chip**

H.L. Tsaturyan, Sh.A. Tonoyan, V.F. Morozov, Y.Sh. Mamasakhlisov

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**Fluctuations in order-disorder transitions in the DNA-ligand complexes with various binding mechanisms**

Y.Sh. Mamasakhlisov, A.P. Antonyan, A.Y. Mamasakhlisov, Sh.A. Tonoyan, P.H. Vardevanyan

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**On the Performance and Energy Consumption of Molecular Dynamics Applications for Heterogeneous CPU-GPU Platforms Based on Gromacs**

Armen Poghosyan, Hrachya Astsatryan, Wahi Narsisian, Yevgeni Mamasakhlisov

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**Possible mechanism of non-monotone behavior of helix-coil transition temperature in two-component solvent**

Sh.A. Tonoyan, A.V. Asatryan, D.L. Hayrapetyan, Y.Sh. Mamasakhlisov, V.F. Morozov

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**Theoretical treatment of helix-coil transition of complexes DNA with two different ligands having different binding parameters**

Armen T. Karapetian, Zareh A. Grigoryan, Yevgeni Sh. Mamasakhlisov, Mikael V. Minasyants,

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**Generalized model of polypeptide chain for helix-coil transition in two-component solvent**

Sh.A. Tonoyan, A.V. Asatryan, Mirtavoosi Saadat, Y.Sh. Mamasakhlisov, V.F. Morozov

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**Solvent effects in the helix-coil transition model can explain the unusual biophysics of intrinsically disordered proteins**

A. Badasyan, Y. Sh. Mamasakhlisov, R. Podgornik, V. A. Parsegian

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**Collapse and hybridization of RNA: View from replica technique approach**

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**Differential Geometry in DNA Molecules**

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**External field influence on semiflexible macromolecules: geometric coupling**

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Գիտաժողովի նյութ

**The dsDNA duplex stability and carbon nanotube induced crystallization: the effect of two - component solvent**

Sh.A. Tonoyan, A.V. Asatryan, S. Mirtavoosi, Y.Sh. Mamasakhlisov, V.F. Morozov

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**Theoretical Description of ssDNA Adsorption on Carbon Nanotubes**

Shushanik Tonoyan, Davit Khechoyan, Vardges Mambreyan, Vladimir Morozov, Yevgeni Mamasakhlisov

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Shushanik Tonoyan, A. Andreassian, A. Hakobyan, V.F. Morozov, Y.Sh. Mamasakhlisov

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**The Helix-Coil Transition the Frames of GMPC. Ligands Effects**

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**Reentrant Melting of Single - Stranded RNA with Quenched Sequence Randomness**  
Yevgeni Mamasakhlisov, A. Andreassian, A. Hakobyan

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**Study of human serum albumin interaction with some ligands**  
P. Vardevanyan, Y. Mamasakhlisov, M. Shahinyan, M. Mikaelyan, N. Petrosyan

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