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Публикации

Статья

Inelastic resonant tunnelling through adjacent localised electronic states in van der Waals heterostructures

E. E. Vdovin, K. Kapralov, Yu. N. Khanin, A. Margaryan, K. Watanabe, T. Taniguchi, C. Yang,

S. V. Morozov, D. A. Svintsov, K. S. Novoselov, D. A. Ghazaryan

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Artificial intelligence guided search for van der Waals materials with high optical anisotropy

Liudmila A. Bereznikova, Ivan A. Kruglov, Georgy A. Ermolaev, Ivan Trofimov, Congwei Xie,

Arslan Mazitov, Gleb Tselikov, Anton Minnekhanov, Alexey P. Tsapenko, Maxim Povolotsky,

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Materials Horizons 2025 1953 - 1961

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Optical Properties of Biaxial van der Waals Crystals for Photonic Applications

A. Slavich, G. Ermolaev, I. Zavidovskiy, D. Grudin, M. Tatmyshevskiy, A. Toksumakov, A. Syuy,

A. Vyshnevyy, D. Yakubovsky, S. Novikov, D. Ghazaryan, A. Arsenin, V. Volkov

Bulletin of the Russian Academy of Sciences: Physics 2025 S433 - S438

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Y. Melikyan, H. Gharagulyan, A. Vasil'ev, V. Hayrapetyan, M. Zhezhu, A. Simonyan, D.A. Ghazaryan,

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Colloids and Interface Science Communications 2024 100766-7

Статья

Exploring van der Waals materials with high anisotropy: geometrical and optical approaches

Aleksandr S Slavich, Georgy A Ermolaev, Mikhail K Tatmyshevskiy, Adilet N Toksumakov,

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Alexander V Syuy, Dmitry M Tsymbarenko, Mikhail S Mironov, Sergey M Novikov, Ivan Kruglov,

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Nature Communications 2024 1552

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Infrared photodetection in graphene-based heterostructures: bolometric and thermoelectric effects at the tunneling barrier

Dmitry A. Mylnikov, Mikhail A. Kashchenko, Kirill N. Kapralov, Davit A. Ghazaryan, Evgenii E. Vdovin, Sergey V. Morozov, Kostya S. Novoselov, Denis A. Bandurin, Alexander I. Chernov, Dmitry A. Svintsov
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Kirill V. Voronin, Adilet N. Toksumakov, Georgy A. Ermolaev, Aleksandr S. Slavich, Mikhail K. Tatmyshevskiy, Sergey M. Novikov, Andrey A. Vyshnevyy, Aleksey V. Arsenin, Kostya S. Novoselov, Davit A. Ghazaryan, Valentyn S. Volkov, Denis G. Baranov
Laser and Photonics Reviews 2024 2301113

Статья

Programmable Carbon Nanotube Networks: Controlling Optical Properties Through Orientation and Interaction

Kirill V. Voronin, Georgy A. Ermolaev, Maria G. Burdanova, Aleksandr S. Slavich, Adilet N. Toksumakov, Dmitry I. Yakubovsky, Maksim I. Paukov, Ying Xie, Liu Qian, Daria S. Kopylova, Dmitry V. Krasnikov, Davit A. Ghazaryan, Denis G. Baranov, Alexander I. Chernov, Albert G. Nasibulin, Jin Zhang, Aleksey V. Arsenin, Valentyn Volkov
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A. V. Prokhorov, A. N. Toksumakov, A. V. Shesterikov, F. M. Maksimov, M. K. Tatmyshevskiy, M. Yu. Gubin, R. V. Kirtaev, E. I. Titova, D. I. Yakubovsky, E. S. Zhukova, V. V. Burdin, S. M. Novikov, A. I. Chernov, D. A. Ghazaryan, A. V. Arsenin, V. S. Volkov
Applied Physics Letters 2024 041702

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A. Vasil'ev, Y. Melikyan, M. Zhezhu, V. Hayrapetyan, M.S. Torosyan, D.A. Ghazaryan, M. Yerosyan, H. Gharagulyan
Materials Research Bulletin 2024 113036

Статья

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

Materials Science and Engineering: B 2023 116564

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Diamond and Related Materials 2023 110362

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Bulletin of the Russian Academy of Sciences: Physics 2023 S453-S457

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Hexagonal boron nitride nanophotonics: a record-breaking material for the ultraviolet and visible spectral ranges

D. V. Grudinin, G. A. Ermolaev, D. G. Baranov, A. N. Toksumakov, K. V. Voronin, A. S. Slavich,

A. A. Vyshnevyy, A. B. Mazitov, I. A. Kruglov, D. A. Ghazaryan, A. V. Arsenin, K. S. Novoselov, V. S. Volkov

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Anomalous optical response of graphene on hexagonal boron nitride substrates

Adilet N Toksumakov, Georgy A Ermolaev, Mikhail K Tatmyshevskiy, Yuri A Klishin, Aleksandr S Slavich,

Ilya V Begichev, Dusan Stosic, Dmitry I Yakubovsky, Dmitry G Kvashnin, Andrey A Vyshnevyy,

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MA Anikina, A Kuznetsov, AN Toksumakov, VV Dremov, DA Ghazaryan, VV Fedorov, AV Arsenin,

VS Volkov, AD Bolshakov

St. Petersburg State Polytechnical University Journal: Physics and Mathematics 2023 3.2

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Temperature-dependent Raman spectroscopy and thermal conductivity of TiS₂ hexagonal nanodiscs

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Materials Science in Semiconductor Processing 2022 107084

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High-refractive index and mechanically cleavable non-van der Waals InGaS₃

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Roman I. Romanov, Andrey M. Markeev, Aleksandr S. Oreshonkov, Dmitry M. Tsymbarenko,
Zakhar I. Popov, Dmitry G. Kvashnin, Andrey A. Vyshnevyy, Aleksey V. Arsenin, Davit A. Ghazaryan,
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Maria G. Burdanova, Yongjia Zheng, Maksim I. Paukov, Georgy A. Ermolaev, Gennady A. Komandin,
Davit Ghazaryan, Sergey Novikov, Rong Xiang, Shohei Chiashi, Shigeo Maruyama, James Lloyd-Hughes,
Alexey V. Arsenin, Valentin Volkov
IEEE Photonics Journal 2022 182243

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Twisted monolayer and bilayer graphene for vertical tunneling transistors

Davit A. Ghazaryan, Abhishek Misra, Evgenii E. Vdovin,, Kenji Watanabe, Takashi Taniguchi,
Sergei V. Morozov, Artem Mishchenko, Kostya S. Novoselov
Applied Physics Letters 2021 183106

Статья

On the Role of Structural Imperfections of Graphene in Resonant Tunneling through Localized States in the h-BN Barrier of van-der-Waals Heterostructures

M. V. Grigoriev, D. A. Ghazaryan, E. E. Vdovin, Yu. N. Khanin, S. V. Morozov, K. S. Novoselov
Физика и техника полупроводников (Semiconductors) 2020 291-296

Статья

High-temperature electronic devices enabled by hBN-encapsulated graphene

Makars Šiškins, Ciaran Mullan, Seok-Kyun Son, Jun Yin, Kenji Watanabe, Takashi Taniguchi,
Davit Ghazaryan, Kostya S. Novoselov, Artem Mishchenko
Applied Physics Letters 2019 123104

Статья

Engineering Graphene Flakes for Wearable Textile Sensors via Highly Scalable and Ultrafast Yarn Dyeing Technique

Shaila Afroj, Nazmul Karim, Zihao Wang, Sirui Tan, Pei He, Matthew Holwill, Davit Ghazaryan,
Anura Fernando, Kostya S. Novoselov
ACS Nano 2019 3847-3857

Статья

Field-induced insulating states in a graphene superlattice

S. Pezzini, S. Wiedmann, A. Mishchenko, M. Holwill, R. Gorbachev, D. Ghazaryan, K.S. Novoselov,

U. Zeitler

Physical Review B 2019 045440

Статья

Planar and van der Waals heterostructures for vertical tunnelling single electron transistors

Gwangwoo Kim, Sung-Soo Kim, Jonghyuk Jeon, Seong In Yoon, Seokmo Hong, Young Jin Cho,

Abhishek Misra, Servet Ozdemir, Jun Yin, Davit Ghazaryan, Matthew Holwill, Artem Mishchenko,

Daria V. Andreeva, Yong-Jin Kim, Hu Young Jeong, A-Rang Jang, Hyun-Jong Chung, Andre K. Geim,

Kostya S. Novoselov, Byeong-Hyeok Sohn, Hyeon Suk Shin

Nature Communications 2019 230
