

## 📖 Публикации

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### **Elastic Gallium Phosphide Nanowire Optical Waveguides—Versatile Subwavelength Platform for Integrated Photonics**

Alexey Kuznetsov, Eduard Moiseev, Artem N. Abramov, Nikita Fominykh, Vladislav A. Sharov, Valeriy M. Kondratev, Ivan I. Shishkin, Konstantin P. Kotlyar, Demid A. Kirilenko, Vladimir V. Fedorov, Svetlana A. Kadinskaya, Alexandr A. Vorobyev, Ivan S. Mukhin, Aleksey V. Arsenin, Valentyn S. Volkov, Vasily Kravtsov, Alexey D. Bolshakov

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### **Self-assembled photonic structure: a Ga optical antenna on GaP nanowires**

Alexey Kuznetsov, Prithu Roy, Dmitry V. Grudinin, Valeriy M. Kondratev, Svetlana A. Kadinskaya, Alexandr A. Vorobyev, Konstantin P. Kotlyar, Evgeniy V. Ubyivovk, Vladimir V. Fedorov, George E. Cirlin, Ivan S. Mukhin, Aleksey V. Arsenin, Valentyn S. Volkov, Alexey D. Bolshakov

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### **Numerical Study of GaP Nanowires: Individual and Coupled Optical Waveguides and Resonant Phenomena**

Maria A. Anikina, Prithu Roy, Svetlana A. Kadinskaya, Alexey Kuznetsov, Valeriy M. Kondratev,

Alexey D. Bolshakov

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### **Deep-Level Emission Tailoring in ZnO Nanostructures Grown via Hydrothermal Synthesis**

Alexey D. Bolshakov, Svetlana A. Kadinskaya, Valeriy M. Kondratev, Ivan K. Kindyushov, Olga Yu. Koval, Dmitry I. Yakubovsky, Alexey Kuznetsov, Alexey I. Lihachev, Alexey V. Nashchekin, Irina Kh. Akopyan, Alexey Yu. Serov, Mariana E. Labzovskaya, Sergey V. Mikushev, Boris V. Novikov, Igor V. Shtrom

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### **Photoluminescence anisotropy in hybrid nanostructures based on gallium phosphide nanowire and 2D transition metal dichalcogenides**

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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### **Si Nanowire-Based Schottky Sensors for Selective Sensing of NH<sub>3</sub> and HCl via Impedance Spectroscopy**

Valeriy M. Kondratev, Ekaterina A. Vyacheslavova, Talgat Shugabaev, Demid A. Kirilenko,

Alexey Kuznetsov, Svetlana A. Kadinskaya, Zamir V. Shomakhov, Artem I. Baranov,  
Svetlana S. Nalimova, Vyacheslav A. Moshnikov, Alexander S. Gudovskikh, Alexey D. Bolshakov  
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**Single GaP nanowire nonlinear characterization with the aid of an optical trap**

Alexey D. Bolshakov, Ivan Shishkin, Andrey Machnev, Mihail Petrov, Demid A. Kirilenko,

Vladimir V. Fedorov, Ivan S. Mukhin, Pavel Ginzburg

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**Anisotropic Radiation in Heterostructured “Emitter in a Cavity” Nanowire**

Alexey D. Bolshakov, Alexey Kuznetsov, Prithu Roy, Valeriy M. Kondratev, Vladimir V. Fedorov,

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**Silicon Nanowire-Based Room-Temperature Multi-environment Ammonia Detection**

Alexey D. Bolshakov, Valeriy M. Kondratev, Ivan A. Morozov, Ekaterina A. Vyacheslavova,

Demid A. Kirilenko, Alexey Kuznetsov, Svetlana A. Kadinskaya, Vyacheslav A. Moshnikov,

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**XRD Evaluation of Wurtzite Phase in MBE Grown Self-Catalyzed GaP Nanowires**

Alexey D. Bolshakov, Olga Yu. Koval, Vladimir V. Fedorov, Igor E. Eliseev, Sergey V. Fedina,

Georgiy A. Sapunov, Stanislav A. Udoenko, Liliia N. Dvoretckaia, Demid A. Kirilenko,

Roman G. Burkovsky, Ivan S. Mukhin

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**Work function tailoring in gallium phosphide nanowires**

Alexey Bolshakov, Vladislav Sharov, Prokhor Alekseev, Vladimir Fedorov, Mikhail Nestoklon,

Alexander Ankudinov, Demid Kirilenko, Georgy Sapunov, Olga Koval, George Cirlin, Ivan Mukhin

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**Tailoring Morphology and Vertical Yield of Self-Catalyzed GaP Nanowires on Template-Free Si Substrates**

Alexey D. Bolshakov, Vladimir V. Fedorov, Yury Berdnikov, Nickolay V. Sibirev, Sergey V. Fedina,

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**Gallium Phosphide Nanowires in a Free-Standing, Flexible, and Semitransparent Membrane for Large-Scale Infrared-to-Visible Light Conversion**

Alexey Bolshakov, Vladimir V. Fedorov, Sergey V. Makarov, Olga Sergaeva, Vladimir Neplokh,

Daria Markina, Stephanie Bruyere, Grégoire Saerens, Mihail I. Petrov, Rachel Grange, Maria Timofeeva,

Ivan S. Mukhin

ACS Nano 2020 10624 - 10632

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**Perovskite-Gallium Phosphide Platform for Reconfigurable Visible-Light Nanophotonic Chip**

Alexey Bolshakov, Pavel Trofimov, Anatoly P. Pushkarev, Ivan S. Sinev, Vladimir V. Fedorov,

Stéphanie Bruyère, Ivan S. Mukhin, Sergey V. Makarov

ACS Nano 2020 8126 - 8134

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