

Nikita Ustimenko

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(updated: March 25, 2021)

BASIC INFO

Bachelor student in Theoretical Nanophotonics, [Department of Physics @ ITMO University](#). Advised by [Kseniia Baryshnikova](#).

RESEARCH INTERESTS

All-dielectric Nanophotonics, Metalenses, Mie Theory, Multipole Decomposition, Coupled Multipole Model, Multiple-Scattering Theory, Born Approximation (Scattering) Orders Formalism.

SCIENTIFIC TOOLS

- Pen and paper
- Programming (Matlab)
- COMSOL Multiphysics

LANGUAGES

- **Human:** Russian (native), English (fluent)
- **Machine:** Matlab, Latex

EDUCATION

Department of Physics, School of Physics and Engineering, ITMO University St. Petersburg, Russia
B.S. in Nanooptics and Optoelectronics, GPA: 4.9x/5.00 2017–Current

- Thesis: “Multiple-scattering in problems on modeling and optimization of optical response of nanostructure ensembles with induced multipole moments”
- Advisor: [Kseniia Baryshnikova](#)

WORK EXPERIENCE

Department of Physics, School of Physics and Engineering, ITMO University St. Petersburg, Russia
Educational Course Assistant September 2020–Current

PUBLICATIONS & CONFERENCES

▪ Papers

1. K.V. Baryshnikova, S.S. Kharintsev, P.A. Belov, [N.A. Ustimenko](#), S.A. Tretyakov, C.R. Simovskii. Metalenses for subwavelength imaging // *Physics-Uspekhi*. – 2021; DOI:UFNe.2021.03.038952.
2. [N.A. Ustimenko](#), K.V. Baryshnikova, R.V. Melnikov, D.F. Kornovan, V.I. Ulyantsev, B.N. Chichkov, A.B. Evlyukhin. Multipole optimization of light focusing by silicon nanosphere structures // arXiv preprint arXiv:2103.01482. – 2021 Mar 2 (under revision in *Phys. Rev. Appl.*).

▪ Proceedings

1. [N. Ustimenko](#), K. Baryshnikova, D. Kornovan, M. Beliaikov, A.B. Evlyukhin. Born series using for designing of all-dielectric metalenses // *AIP Conference Proceedings*. – AIP Publishing LLC, 2020. – Vol. 2300. – No. 1. – p. 020007; DOI:10.1063/5.0031976.
2. [N.A. Ustimenko](#), K.V. Baryshnikova, D.F. Kornovan, A.B. Evlyukhin. Born expansion for problem of metalens modeling. Proceedings of XVII A.P. Sukhorukov Russian School-Seminar “Wave Phenomena: Physics and Applications” (“Waves-2020”) – 2020. – pp. 13-16 (no DOI, in Russian).

▪ Conferences & Schools

2020

1. XVII A.P. Sukhorukov Russian School-Seminar “Wave Phenomena: Physics and Applications” (“Waves-2020”).
2. METANANO SCHOOL 2020 - Summer School on Metamaterials and Nanophotonics.
3. International Winter School on Physics of Semiconductors.

AWARDS, GRANTS & HONOURS

- Grant of Russian Foundation of Basic Research, [employee](#) 2019

TEACHING

Optics of Waveguides and Resonators

Bachelor Course at ITMO University. Practical classes

February 2021–Current

Introduction to Photonics

Master Course at ITMO University. Practical classes

September 2020–Current

OTHER ACTIVITIES

- International Conference on Nanophotonics and Metamaterials METANANO 2020, [volunteer](#) 2020