

Портфолио аспиранта 1-го года обучения Советского Александра Александровича

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Год начала обучения	2018
Форма обучения	очная
Направление подготовки	03.06.01 – Физика и астрономия
Профиль подготовки	01.04.03 – Радиофизика
Отдел	230
Научный руководитель	д.ф.-м.н. Зайцев Владимир Юрьевич
Тема диссертации	Эластографическая визуализация в оптической когерентной томографии
Публикации	<ol style="list-style-type: none"> <li>1. “Optimization of phase-resolved optical coherence elastography for highly-sensitive monitoring of slow-rate strains” VY Zaitsev, LA Matveev, AL Matveyev, AA Sovetsky, DV Shabanov, SY Ksenofontov, GV Gelikonov, OI Baum, AI Omelchenko, AV Yuzhakov, EN Sobol, Laser Physics Letters, 16(6), 065601 (2019)</li> <li>2. “OCT-elastography-based optical biopsy for breast cancer delineation and express assessment of morphological/molecular subtypes” Ekaterina V Gubarkova, Alexander A Sovetsky, Vladimir Yu Zaitsev, Alexander L Matveyev, Dmitry A Vorontsov, Marina A Sirotkina, Lev A Matveev, Anton A Plekhanov, Nadezhda P Pavlova, Sergei S Kuznetsov, Alexey Yu Vorontsov, Elena V Zagaynova, Natalia D Gladkova, Biomedical optics express, 10(5), 2244-2263 (2019)</li> <li>3. “Revealing structural modifications in thermomechanical reshaping of collagenous tissues using optical coherence elastography” Vladimir Y Zaitsev, Alexander L Matveyev, Lev A Matveev, Grigory V Gelikonov, Olga I Baum, Alexander I Omelchenko, Dmitry V Shabanov, Alexander A Sovetsky, Alexey V Yuzhakov, Anatoly A Fedorov, Vladimir I Siplivy, Andrey V Bolshunov, Emil N Sobol, Journal of biophotonics, e201800250 (2018)</li> <li>4. “Digital refocusing in optical coherence tomography using finite impulse response filters” Alexander A Moiseev, Grigory V Gelikonov, Sergey Yu Ksenofontov, Pavel A Shilyagin, Dmitry A Terpelov, Irina V Kasatkina, Dmitry A Karashtin, Alexander A Sovetsky, Valentine M Gelikonov, Laser Physics Letters, 15(9), 095601 (2018)</li> <li>5. “Vector method for strain estimation in phase-sensitive optical coherence elastography” A.L. Matveyev, L.A. Matveev, A.A. Sovetsky, G.V. Gelikonov, A.A. Moiseev, V.Y. Zaitsev, Laser Physics Letters, 15(6), 065603 (2018)</li> <li>6. “Manually-operated compressional optical coherence elastography with effective aperiodic averaging: demonstrations for corneal and cartilaginous tissues” AA Sovetsky, AL Matveyev, LA Matveev, DV Shabanov, VY Zaitsev, Laser Physics Letters, 15(8), 085602 (2018)</li> <li>7. “Practical obstacles and their mitigation strategies in compressional optical coherence elastography of biological tissues”</li> </ol>

	<p>V.Y. Zaitsev, A.L. Matveyev, L.A. Matveev, E.V. Gubarkova, A.A. Sovetsky, M.A. Sirotkina, G.V. Gelikonov, E.V. Zagaynova, N.D. Gladkova, Alex Vitkin, Journal of Innovative Optical Health Sciences, 10(06), 1742006 (2017)</p> <p>8. “Optimized phase gradient measurements and phase-amplitude interplay in optical coherence elastography” V.Y. Zaitsev, A.L. Matveyev, L.A. Matveev, G.V. Gelikonov, A.A. Sovetsky, Alex Vitkin, Journal of Biomedical Optics, 21(11), 116005 (2016)</p>
Участие в конференциях	<p>9. “OCT-based three-dimensional strain mapping for elastography and relaxography” Alexander A Sovetsky, Alexander L Matveyev, Ekaterina V Gubarkova, Lev A Matveev, Nadezhda P Pavlova, Anton A Plekhanov, Dmitry V Shabanov, Valentin M Gelikonov, Grigory V Gelikonov, Elena V Zagaynova, Natalia D Gladkova, Vladimir Y Zaitsev, Saratov Fall Meeting 2018: Optical and Nano-Technologies for Biology and Medicine, 1106503 (2019)</p> <p>10. “OCT lymphangiography based on speckle statistics evaluation” Lev A Matveev, Valentin Demidov, Marina A Sirotkina, Dmitry A Karashtin, Alexander A Moiseev, Ivan Popov, Alexander A Sovetsky, Alexander L Matveyev, Olga Demidova, Grigory V Gelikonov, Costel Fluerau, Elena V Zagaynova, Natalia D Gladkova, Vladimir Y Zaitsev, I Alex Vitkin, Saratov Fall Meeting 2018: Optical and Nano-Technologies for Biology and Medicine, 1106502 (2019)</p> <p>11. “Optical coherence elastography as a new method for estimation of chemotherapy efficacy on triple-negative breast cancer in the experiment” Anton A Plekhanov, Marina A Sirotkina, Alexander A Sovetsky, Ekaterina V Gubarkova, Elena B Kiseleva, Vladimir Y Zaitsev, Lev A Matveev, Alexander L Matveyev, Sergey S Kuznetsov, Elena V Zagaynova, Natalia D Gladkova, 1106506 (2019)</p> <p>12. “Comparison of elastic properties of tissue samples in various pathological states using optical coherence elastography” Ekaterina V Gubarkova, Alexander A Sovetsky, Vladimir Yu Zaitsev, Lev A Matveev, Alexander L Matveyev, Dmitry A Vorontsov, Lydia B Timofeeva, Elena B Kiseleva, Alexey Yu Vorontsov, Irina A Kuznetsova, Natalia D Gladkova, Saratov Fall Meeting 2018: Optical and Nano-Technologies for Biology and Medicine, 110650D (2019)</p> <p>13. “Phase-sensitive OCT in monitoring of slow-rate strains in laser tissue reshaping” VY Zaitsev, LA Matveev, AL Matveyev, AA Sovetsky, GV Gelikonov, OI Baum, AI Omelchenko, AV Yuzhakov, EN Sobol, Optical Elastography and Tissue Biomechanics VI, 108800K (2019)</p> <p>14. “Thermo-mechanical mechanism of laser-induced pore-formation in sclera for glaucoma treatment: AFM and OCT investigations”, OI Baum, AI Omelchenko, AV Yuzhakov, V Zaitsev, AA Sovetsky, LA Matveev, EN Sobol, Biophotonics: Photonic Solutions for Better Health Care VI, 106851T (2018)</p> <p>15. “Multimodal OCT characterization of human breast cancer morphological types: preliminary study”, EV Gubarkova, AA Sovetsky, LA Matveev, AL Matveyev, V Yu Zaitsev, AA Moiseev,</p>

DA Vorontsov, A Yu Vorontsov, SS Kuznetsov, ND Gladkova, MA Sirotkina, Biophotonics: Photonic Solutions for Better Health Care VI, 106853B (2018)

16. "OCT-based characterization of the nonlinear properties of biological tissues in various states", Alexandr A Sovetsky, Ekaterina V Gubarkova, Lev A Matveev, Alexander L Matveyev, Marina A Sirotkina, Natalia D Gladkova, Vladimir Y Zaitsev, Biophotonics: Photonic Solutions for Better Health Care VI, 1068536 (2018)

17. "OCT-based label-free 3D mapping of lymphatic vessels and transparent interstitial-fluid-filled dislocations", LA Matveev, VV Demidov, AA Sovetsky, AA Moiseev, AL Matveyev, GV Gelikonov, VY Zaitsev, A Vitkin, 2018 International Conference Laser Optics (ICLO), 512 (2018)

18. "Monitoring of slow deformations in laser tissue reshaping with optical coherence elastography", VY Zaitsev, LA Matveev, AL Matveev, AA Sovetsky, DV Shabanov, GV Gelikonov, OI Baum, A Yuzhakov, EN Sobol, 2018 International Conference Laser Optics (ICLO), 510 (2018)

19. "Optical coherence elastography assesses tissue modifications in laser reshaping of cornea and cartilages" V.Y. Zaitsev, A.L. Matveyev, L.A. Matveev, G.V. Gelikonov, D.V. Shabanov, A.A. Sovetsky, A.I. Omelchenko, O.I. Baum, Alex Vitkin, E.N. Sobol, Optical Elastography and Tissue Biomechanics V 10496, 104960C (2018)

20. "Two-dimensional OCT-relaxography of collagenous tissues" L.A. Matveev, A.A. Sovetsky, I.N. Druzhkova, D.A. Karashtin, A.L. Matveyev, D.V. Shabanov, G.V. Gelikonov, E.V. Gubarkova, M.A. Sirotkina, V.M. Gelikonov, N.D. Gladkova, Alex Vitkin, E.V. Zagaynova, V.Y. Zaitsev, Seventh International Conference on Lasers in Medicine (LMD17),108310J, (2018)

21. "Quantitative compressional OCE: obviating pitfalls in using precalibrated compliant layers and some other practical obstacles" A.A. Sovetsky, A.L. Matveyev, L.A. Matveev, E.V. Gubarkova, M.A. Sirotkina, G.V. Gelikonov, E.V. Zagaynova, N.D. Gladkova, Alex Vitkin, V.Y. Zaitsev, Seventh International Conference on Lasers in Medicine (LMD17), 108310K, (2018)

22. "Multimodal OCT for assessment of vasculature-targeted PDT success" M.A. Sirotkina, E.V. Gubarkova, E.B. Kiseleva, V.Y. Zaitsev, M.Y. Kirillin, A.A. Sovetsky, A.L. Matveyev, L.A. Matveev, S.S. Kuznetsov, E.V. Zagaynova, Alex Vitkin, N.D. Gladkova, Optical Methods for Tumor Treatment and Detection: Mechanisms and Techniques in Photodynamic Therapy XXVI, 10047, 100470Q (2017)

23. "Multiparameter thermo-mechanical OCT-based characterization of laser-induced cornea reshaping" V.Y. Zaitsev, A.L. Matveyev, L.A. Matveev, G.V. Gelikonov, Alex Vitkin, A.I. Omelchenko, O.I. Baum, D.V. Shabanov, A.A. Sovetsky, E.N. Sobol, Optical Elastography and Tissue Biomechanics IV, 10067, 100670V (2017)

24. "Manifestations of nonlinear elasticity of biological tissues in compressional optical coherence elastography" V.Y. Zaitsev, A.L.

- Matveyev, L.A. Matveev, E.V. Gubarkova, A.A. Sovetsky, M.A. Sirotkina, G.V. Gelikonov, E.V. Zagaynova, N.D. Gladkova, Alex Vitkin, European Conference on Biomedical Optics, 1041304 (2017)
25. “Multimodal OCT for complex assessment of tumors response to therapy” M.A. Sirotkina, E.B. Kiseleva, E.V. Gubarkova, L.A. Matveev, V.Y. Zaitsev, A.L. Matveyev, M.V. Shirmanova, A.A. Sovetsky, A.A. Moiseev, E.V. Zagaynova, Alex Vitkin, N.D. Gladkova, European Conference on Biomedical Optics, 104110U (2017)
26. “Quasistatic in-depth local strain relaxation/creep rate mapping using phase-sensitive optical coherence tomography” L.A. Matveev, D.A. Karashtin, A.A. Sovetsky, E.V. Gubarkova, M.A. Sirotkina, A.L. Matveyev, D.V. Shabanov, G.V. Gelikonov, V.M. Gelikonov, I.N. Druzhkova, N.D. Gladkova, Alex Vitkin, E.V. Zagaynova, V.Y. Zaitsev, European Conference on Biomedical Optics, 104160P (2017)
27. “Applications of optical coherence elastography in problems of laser reshaping of cartilages and cornea” V.Y. Zaitsev, A.L. Matveyev, L.A. Matveev, G.V. Gelikonov, A.I. Omelchenko, D.V. Shabanov, A.A. Sovetsky, A. Vitkin, O.I. Baum, E.N. Sobol, Intern. Conf. Topical Problems of Biophotonics, 68 (2017)
28. “Combined microstructural, polarization-sensitive and elastographic characterization of breast cancer by optical coherence tomography” E.V. Gubarkova, A.A. Sovetsky, V.Yu. Zaitsev, A.A. Moiseev, L.A. Matveev, A.L. Matveyev, S.S. Kuznetsov, D.A. Vorontsov, A.Yu. Vorontsov, N.D. Gladkova, M.A. Sirotkina, Intern. Conf. Topical Problems of Biophotonics, 60 (2017)
29. “Mitigation of practical obstacles in realization of compressional optical coherence elastography” V.Y. Zaitsev, A.L. Matveyev, L.A. Matveev, E.V. Gubarkova, A.A. Sovetsky, M.A. Sirotkina, G.V. Gelikonov, E.V. Zagaynova, N.D. Gladkova, A. Vitkin, Intern. Conf. Topical Problems of Biophotonics, 69 (2017)
30. “Optimization of phase-variation measurements in low-coherence methods: implications for OCE” V.Y. Zaitsev, A.L. Matveyev, L.A. Matveev, G.V. Gelikonov, A.A. Sovetsky, Alex Vitkin, Biophotonics: Photonic Solutions for Better Health Care V, 9887, 98871G (2016)
31. “Модифицированный векторный метод оценивания фазовых градиентов для картирования деформаций в задачах оптической когерентной эластографии”, А.А. Советский, А.Л. Матвеев, Л.А. Матвеев, Г.В. Геликонов, В.Ю. Зайцев, Труды XXII научной конференции по радиофизике, 336-339 (2018)
32. “Количественная компрессионная оптическая когерентная эластография: физические проблемы реализации и пути их разрешения” А.А. Советский, А. Л. Матвеев, Л. А. Матвеев, Е.В. Губарькова, Г. В. Геликонов, В. Ю. Зайцев, Труды XXI научной конференции по радиофизике, 294-296 (2017)
33. “Амплитудно-фазовые эффекты при оценке фазовых градиентов и эффект «замороженной фазы» на ОКТ изображениях в задачах оптической когерентной

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Участие в грантах	Грант РФФИ № 16-15-10274 Грант РФФИ № 17-72-20249 Грант РФФИ № 16-02-00642 А Грант РФФИ № 18-42-520018 р_а Грант РФФИ № 18-32-20056 мол_а_вед Грант РФФИ № 18-32-00608 мол_а Грант РФФИ № 19-02-00645 Грант РФФИ № 19-05-0053 Грант Президента Российской Федерации МК-3416.2018.2 Конкурс УМНИК-18 №14017ГУ/2019	
Научно-педагогическая деятельность	Тьюторство над студентами первого курса ВШОПФ	
<b>Успеваемость</b>		
дисциплина	дата экзамена	оценка
<b>Радиофизика</b>		
<b>Иностранный язык</b>	<b>03.06.2019</b>	<b>хорошо</b>
<b>История и философия науки</b>	<b>13.06.2019</b>	<b>отлично</b>
Личные достижения (дипломы, грамоты, сертификаты, именные стипендии)	1)Сертификат финалиста конкурса инновационных проектов «Умник-2018» 2)Сертификат за второе место в номинации «Лучший студенческий постер» на международной конференции SFM 2017(25-30 сентября 2017 г.) 3)Диплом I степени за устный доклад на XXIV Нижегородской сессии молодых учёных (21-24 мая 2019 г.)	
Дополнительная информация	Обзор результатов, представленных на сайте ИПФ РАН в разделе Важные результаты, «Мультимодальный ОКТ комплекс для лабораторных и клинических применений» был включен в число важнейших результатов года, рекомендуемых в отчет РАН.	