

Сведения о научном руководителе
диссертации Цымбалова Ивана Николаевича
«Нелинейные плазменные волны и ускорение электронов при воздействии лазерного излучения релятивистской интенсивности на плотную плазму»

Научный руководитель: Савельев-Трофимов Андрей Борисович

Ученая степень: д.ф.-м.н.

Ученое звание: профессор

Должность: профессор, кафедры общей физики и волновых процессов

Место работы: МГУ имени М.В. Ломоносова, физический факультет

Адрес места работы: Ленинские горы, д.1, стр. 2, ГСП-1, Москва, 119991

Тел. +7(495)939-53-18

E-mail: abst@physics.msu.ru

Список основных научных публикаций по специальности 01.04.21 –«лазерная физика» за последние 5 лет:

1. I. N. Tsymbalov, D. A. Gorlova, V. Yu Bychenkov, and A. B. Savel'ev, Electronic parametric instabilities in an inhomogeneous plasma with a sharp concentration gradient, excited by a femtosecond laser pulse of subrelativistic intensity, *Quantum Electronics* **49** (2019), no. 4, 386–390
2. K. Ivanov, I. Tsymbalov, O. Vais, S. Bochkarev, R. Volkov, V. Bychenkov, and A. Savel'ev. Accelerated electrons for in situ peak intensity monitoring of tightly focused femtosecond laser radiation at high intensities. *Plasma Physics and Controlled Fusion* **60** 105011 (2018).
3. K. A. Ivanov, D. A. Gozhev, S. P. Rodichkina, S. V. Makarov, S. S. Makarov, M. A. Dubatkov, S. A. Pikuz, D. E. Presnov, A. A. Paskhalov, N. V. Eremin, A. V. Brantov, V. Yu Bychenkov, R. V. Volkov, V. Yu Timoshenko, S. I. Kudryashov, and A. B. Savel'ev. Nanostructured plasmas for enhanced gamma emission at relativistic laser interaction with solids. *Applied Physics B: Lasers and Optics* **123** 252 (2017).
4. I. N. Tsymbalov, R. V. Volkov, N. V. Eremin, K. A. Ivanov, V. G. Nedorezov, A. A. Paskhalov, A. L. Polonskij, A. B. Savel'ev, N. M. Sobolevskij, A. A. Turinge, and S. A. Shulyapov, Investigation of the reaction $d(\gamma, n)h$ near the threshold by means of powerful femtosecond laser radiation, *Physics of Atomic Nuclei* **80** (2017), no. 3, 397–401
5. D. A. Krestovskikh, K. A. Ivanov, I. N. Tsymbalov, S. A. Shulyapov, V. V. Bukin, R. V. Volkov, A. A. Rupasov, and A. B. Savel'ev, Postionisation of a spatially nonuniform plasma plume under high-intensity femtosecond laser irradiation, *Quantum Electronics* **47** (2017), no. 1, 42–47
6. K. A. Ivanov, I. N. Tsymbalov, S. A. Shulyapov, D. A. Krestovskikh, A. V. Brantov, V. Yu Bychenkov, R. V. Volkov, and A. B. Savel'ev, Prepulse controlled electron acceleration from solids by a femtosecond laser pulse in the slightly relativistic regime, *Physics of Plasmas* **24** (2017), no. 6, 063109.

7. C.Br'ee, M. Hofmann, A. Demircan, U. Morgner, O. Kosareva, A. Savel'ev, A. Husakou, M. Ivanov, and I. Babushkin. Symmetry breaking and strong persistent plasma currents via resonant destabilization of atoms. *Physical Review Letters* **119** 243202 (2017).
8. V. S. Belyaev, B. V. Zagreev, A. Yu Kedrov, D. V. Kovkov, A. V. Lobanov, A. P. Matafonov, A. B. Savel'ev, I. M. Mordvincev, I. N. Tsymbalov, S. A. Shulyapov, A. A. Paskhalov, N. V. Eremin, and V. P. Krainov, Laboratory modeling of big bang nucleosynthesis using powerful laser facilities, *Laser Physics* **27** (2017), 066001–066001
9. I. N. Tsymbalov, K. A. Ivanov, R. V. Volkov, A. B. Savel'ev, L. S. Novikov, L. I. Galanina, N. P. Chirskaya, V. Yu Bychenkov, and A. I. Chumakov, Laser-plasma sources of ionizing radiation for simulation of radiation effects in microelectronic materials and components, *Inorganic Materials: Applied Research* **8** (2017), no. 3, 359–363
10. D. A. Gorlova, V. G. Nedorezov, K. A. Ivanov, A. B. Savel'ev, A. A. Turinge, and I. N. Tsymbalov, Possibility of generating lowenergy positrons on electron accelerators with a beam energy of several mev and on terawatt lasers, *Quantum Electronics* **47** (2017), no. 6, 522–527
11. K. A. Ivanov, A. V. Brantov, S. I. Kudryashov, S. V. Makarov, D. A. Gozhev, R. V. Volkov, A. A. Ionin, V. Yu Bychenkov, and A. B. Savel'ev, Enhanced relativistic laser–plasma coupling utilizing laser-induced micromodified target, *Laser Physics Letters* **12** (2015), no. 4, 046005
12. K. A. Ivanov, S. A. Shulyapov, P. A. Ksenofontov, I. N. Tsymbalov, R. V. Volkov, A. B. Savel'ev, A. V. Brantov, V. Yu Bychenkov, A. A. Turinge, A. M. Lapik, A. V. Rusakov, R. M. Djilkibaev, and V. G. Nedorezov, Comparative study of amplified spontaneous emission and short pre-pulse impacts onto fast electron generation at sub-relativistic femtosecond laser-plasma interaction, *Physics of Plasmas* **21** (2014), 093110–093110

Ученый секретарь
диссертационного совета МГУ.01.13,
А.А. Коновко