

Тимур Амирович Залялютдинов
Senior Lecturer
Department of Quantum Mechanics



Research output

Radiative QED corrections to one-photon transition rates in the hydrogen atom at finite temperatures

Zalialiutdinov, T., Solovyev, D. & Labzowsky, L., 8 May 2020, In: Physical Review A - Atomic, Molecular, and Optical Physics. 101, 5, 10 p., 052503.

Thermal corrections of lowest order for a helium atom

Solovyev, D., Zalialiutdinov, T. & Anikin, A., 4 May 2020, In: Physical Review A - Atomic, Molecular, and Optical Physics. 101, 5, 5 p., 052501.

Importance of nonresonant corrections for the description of atomic spectra

Solovyev, D., Anikin, A., Zalialiutdinov, T. & Labzowsky, L. N., 2020, In: Journal of Physics B: Atomic, Molecular and Optical Physics.

Recombination process for the hydrogen atom in the presence of blackbody radiation

Solovyev, D., Zalialiutdinov, T., Anikin, A., Triaskin, J. & Labzowsky, L., 8 Jul 2019, In: Physical Review A - Atomic, Molecular, and Optical Physics. 100, 1, 7 p., 012506.

Mixing of atomic levels by blackbody radiation and its consequences in an astrophysical context

Zalialiutdinov, T., Solovyev, D., Labzowsky, L. & Plunien, G., 3 Jan 2019, In: Physical Review A - Atomic, Molecular, and Optical Physics. 99, 1, 012502.

Local burst model of CMB temperature fluctuations: luminescence in lines of primary para- and orthohelium

Дубрович, В. К., Залялютдинов, Т. А. & Грачев, С. И., 5 Nov 2018, In: ASTRONOMY & ASTROPHYSICS. 619, 7 p., A29.

QED theory of multiphoton transitions in atoms and ions

Залялютдинов, Т. А., Соловьев, Д. А., Лабзовский, Л. Н. & Plunien, G., 31 Mar 2018, In: Physics Reports. 737, p. 1-84 84 p.

BBR-induced Stark shifts and level broadening in a helium atom

Zalialiutdinov, T., Solovyev, D. & Labzowsky, L., 14 Jan 2018, In: Journal of Physics B: Atomic, Molecular and Optical Physics. 51, 1, 6 p., 015003.

Influence of BBR-Induced Level Mixing Effect on Cosmological Recombination of Hydrogen and Singly Ionized Helium Atoms

Zalialiutdinov, T. A., Solovyev, D. A. & Labzowsky, L. N., 1 Jan 2018, In: Journal of Experimental and Theoretical Physics. 126, 1, p. 8-20 13 p.

ВЛИЯНИЕ ЭФФЕКТА СМЕШИВАНИЯ АТОМНЫХ УРОВНЕЙ, ИНДУЦИРОВАННОГО ИЗЛУЧЕНИЕМ АБСОЛЮТНО ЧЕРНОГО ТЕЛА, НА КОСМОЛОГИЧЕСКУЮ РЕКОМБИНАЦИЮ АТОМОВ ВОДОРОДА И ОДНОКРАТНО ИОНИЗОВАННОГО ГЕЛИЯ

Соловьев, Д. А., Залялютдинов, Т. А. & Лабзовский, Л. Н., 2018, In: Журнал экспериментальной и теоретической физики. 153, 1, p. 13-27 15 p.

Generalized spin-statistic selection rules for atomic transitions with arbitrary number of equivalent photons

Zalialiutdinov, T., Solovyev, D. & Labzowsky, L., 2017, In: European Physical Journal D. 226, 12, p. 2837-2842

Level-mixing effect induced by blackbody radiation and its influence on the cosmological hydrogen recombination problem
Zalialiutdinov, T., Solovyev, D., Labzowsky, L. & Plunien, G., 2017, In: Physical Review A - Atomic, Molecular, and Optical Physics. 96, p. 012512

QED calculations of three-photon transition probabilities in H-like ions with arbitrary nuclear charge
Zalialiutdinov, T., Solovyev, D. & Labzowsky, L., 2016, In: Journal of Physics B: Atomic, Molecular and Optical Physics. 49, 5, 9 p., 055001.

Spin-statistic selection rules for multiphoton transitions: Application to helium atoms
Zalialiutdinov, T., Solovyev, D., Labzowsky, L. & Plunien, G., 2016, In: Physical Review A - Atomic, Molecular, and Optical Physics. 93, 1, p. 012510 7 p.

Exclusion principle for photons: Spin-statistic selection rules for multiphoton transitions in atomic systems
Zalialiutdinov, T., Solovyev, D., Labzowsky, L. & Plunien, G., 2015, In: Physical Review A. 91, 3, 12 p.

Theory of the multiphoton cascade transitions with two photon links: comparison of quantum electrodynamical and quantum mechanical approaches
Zalialiutdinov, T., Baukina, Y., Solovyev, D. & Labzowsky, L., 2014, In: Journal of Physics B: Atomic, Molecular and Optical Physics. 47, 11, p. 115007_1-11

Two-photon transitions with cascades: two-photon transition rates and two-photon level widths
Zalialiutdinov, T., Solovyev, D., Labzowsky, L. & Plunien, G., 2014, In: Physical Review A - Atomic, Molecular, and Optical Physics. 89, 5, p. 052502_1-15

QED model of the radiation escape from matter
Zalialiutdinov, T., Solovyev, D. & Labzowsky, L., 2012, In: Journal of Physics B: Atomic, Molecular and Optical Physics. 45, 16, p. 165006_1-14

4s-1s two-photon decay in hydrogen atom with allowance for cascades
Zalyalyutdinov, T. A., Solovyev, D. A. & Labzovskii, L. N., 2011, In: Optics and Spectroscopy (English translation of Optika i Spektroskopiya). 110, 3, p. 328-334

Двухфотонный распад 4s-1s в атоме водорода с учетом каскадов
Залялютдинов, Т. А., Соловьев, Д. А. & Лабзовский, Л. Н., 2011, In: ОПТИКА И СПЕКТРОСКОПИЯ. 110, 3, p. 362-368

Research interests

quantum electrodynamics, theory of atom, cosmic microwave background, highly charged ions