



83rd International Scientific
Conference of the
University of Latvia **2025**

Atomu, molekulu un optiskas
fizikas sekcija
(LU EZTF Lāzeru Centra sekcija)

Atomic, molecular, and optical
physics section
(UL FST Laser Centre section)

Wednesday, 29th of January 2025, 11:00 AM,
Jelgavas iela 3, room 801/802

Programma/Programme

Chairpersons: Prof. Ruvins Ferbers, Prof. Marcis Auzinsh		
11:00–11:20	K. Puķītis	Exploration of near-infrared and short-term variability in spectra of post-AGB stars
11:20–11:40	Ā. Lapiņš , M. Tamanis, I. Klincāre, D. Jermacāne, I. Brakmane, R. Ferbers	Reanalysis of K ₂ molecule ground electronic state
11:40–12:00	S. Filatov , M. Auzinsh	Exploring symmetries of two-qubit entanglement: Stabilizer group structure and Bloch sphere geometry
12:00–12:20	V. Krūmiņš , AEGIS collaboration	Developments for Rydberg positronium spectroscopy
12:20–12:40	O. Rudzītis , R. Lazda, A. Asare, F. Gahbauer, M. Auzinsh	Quantum Random Number Generation Using Nitrogen-Vacancy Centres in Diamond
12:40–13:10	Kafijas pauze, diskusijas/Coffee break, discussions	
13:10–13:30	M. Jani , R. Lazda, F. Gahbauer, A. Asare, M. Mrózek, A. M. Wojciechowski, W. Gawlik, M. Auzinsh	Multi-parameter study of a diamond magnetometer
13:30–13:50	A. Mozers, A. Nikolajevs, J. Birznieks , L. Miķelsons, F. Gahbauer, M. Auzinsh	Sensitivity characterization of magneto-optical signals in atomic Cs with linearly polarized excitation
13:50–14:10	A. Mozers, L. Seržane-Sadovska, J. Birznieks, L. Miķelsons , F. Gahbauer, M. Auzinsh	Radio-frequency induced splitting of non-zero magnetic field magneto-optical double resonances for single- and double-photon magnetic-dipole transitions in the Cs ground state
14:10–14:30	A. Mozers, D. Jermacāne , F. Gahbauer, M. Auzinsh	Nonlinear-Zeeman-splitting error-free magneto-optical signals using higher order coherences in ⁸⁷ Rb
14:30–15:00	Noslēgums, diskusijas/Conclusions, discussions	