

Quantum correlations in atomic processes with few-electron ions

Monday, 19 September 2016 18:00 (2 hours)

We investigate the polarization entanglement of two photons emitted in the atomic processes with few-electron ions. All results have been obtained within the framework of the density matrix approach and relativistic quantum theory. We consider two different schemes. In the first one the initial state is the state with well-defined angular momentum and its projection onto the quantization axis. In the second scheme the initial state is the superposition of the states with well-defined angular momenta. Detailed calculations have been performed for radiative recombination, dielectronic recombination and sequential decay.

Primary author: MAIOROVA, Anna (St. Petersburg State University)

Co-authors: Prof. SURZHYKOV, Andrey (Physikalisch-Technische Bundesanstalt (PTB) and Technische Universität Braunschweig); Dr TASHENOV, Stanislav (Heidelberg University); SHABAEV, Vladimir (GSI, Darmstadt)

Presenter: MAIOROVA, Anna (St. Petersburg State University)

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