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**Two-photon ionization of helium
Simulations using multiconfigurational methods**

Two-photon double ionization of Helium constitutes an active field of research in theoretical physics, which is far from being completely understood. This can already be seen from the most basic quantity, the total double ionization cross section, for which several contradicting results exist, differing up to an order of magnitude. Additionally, since there have been performed only very few experiments up to now, no decision is made from the experimental side.

In this talk, after giving an overview on the topic, I show results from multiconfigurational time-dependent Hartree-Fock and Configuration interaction calculations for the two-photon ionization in the direct regime. I will further address the origin of the aforementioned discrepancies by using a projection on final states with different degree of correlation.