

**Double ionization in Helium**  
**Ab initio calculations beyond the one dimensional approximation**

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We present ab-initio computations of the ionization of two-electron atoms by short pulses of coherent radiation beyond the one-dimensional approximation. In the model the electron correlation is included in its full dimensionality, while the center-of-mass motion is restricted along the polarization axis. We show some result for Non Sequential Double Ionization (NSDI) as well as for SDI for high intensity low IR frequency. Some recent applications for this correlated system is also presented.

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