FL11 beam parameters: photon energy = 60 eV, pulse duration = 30 fs, pulse intensity = 5 μJ, spot size = 10 mm

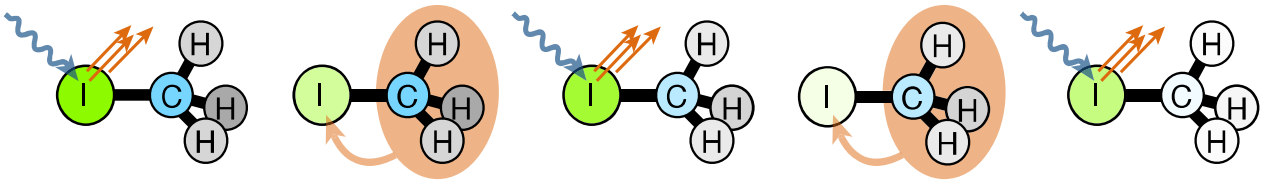
Strong field ionisation on CH_3I molecule around the I 4d edge

Multiple I4d ionization-Auger (M. Richter Phys. Rev. Lett. 102 163002 (2009) Xe^{19+})

Photoelectrons of different core ionized CH_3I^{n+} molecule

Photoelectron-ion-ion coincidences would allow to observe the PAPA mechanism

Charge Transfer (methyl to iodine) measured through Auger – ion – ion coincidences



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Coherent excitation

Resonant excitation I 4d→σ* or Xe 4d→np

Autler-Townes splitting of the resonant Auger-CH_3I^+ or resonant Auger-Xe+ coincidence spectrum too low to be observed ? Even if the Rabi period (0.6 fs) is much shorter than the core hole lifetime (6 fs) ?