

Quasiphoton at the Subcycle Level in Strong-Field Ionization

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The concept of photon is generally not well-defined at the subcycle level. In this talk, we show that the global rotation symmetry within a single sub-optical cycle in a circularly or elliptically polarized light pulse may lead to the definition of quasiphotons, which exist at the subcycle level. Such a concept is further applied to extract the effective frequency of an ultrashort light pulse in strong-field ionization of atoms.