

Faster than a cycle of light

Rupert Huber

Institut für Experimentelle und Angewandte Physik
Universität Regensburg, Germany

Latest progress in ultrafast optics has enabled scientists to accelerate electrons in solids directly by the carrier wave of light. A fascinating quantum world unfolds on the sub-optical-cycle scale, including Bloch oscillations, quasiparticle collisions, and high-harmonic generation. By combining this approach with ultramicroscopy we take the first femtosecond snapshot image of a molecular orbital and the first femtosecond single-molecule movie.