

# Harnessing Attosecond Quantum Technologies

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High harmonic quantum light sources provide an exquisite ability to harness and control short wavelength light, with unprecedented control over the spectral, temporal, polarization and orbital angular momentum waveforms. These represent the most-complex coherent electromagnetic fields ever created, controlled on sub-Å spatial scales and sub-attosecond temporal scales, from the UV to the keV photon energy region. These advances are providing powerful new tools for near-perfect X-ray imaging, for coherently manipulating quantum materials using light, and for designing more efficient nanoscale devices.