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Coherent high-harmonic generation with laser-plasma beams

Tuesday 3 June 2025 16:00 (2 hours)

Active energy compression scheme enables generating laser-plasma accelerator electron beams with a small relative slice energy spread, of the order of 10 ppm. When modulated by a laser pulse, such beams can produce coherent radiation at very high, about 100-th harmonics of the modulation laser wavelength, which are hard to access by conventional techniques. The scheme has a potential of providing additional capabilities for future plasma-based facilities by generating stable, tunable, narrow-band radiation.

Footnotes

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