Snapshots of Laser Wakefields using Frequency Domain Holography

Verification of dependence of Wakefield periodicity on plasma density (no fitting parameters)

Chirped Reference \((2\omega)\)

Chirped Probe \((2\omega)\)

30 TW Pump \((\omega)\)

Wakefield \(n_e = n_0 + \delta n_e(t)\)

Ionization Front

Holographically reconstructed electron density profile of a Wakefield produced by a 30 TW pulse

Curved Wavefronts

Wakefield Oscillations

Ionization Front

data by Nicholas Matlis at Hercules laser

U. Michigan 11-22-05

Verification of dependence of Wakefield periodicity on plasma density (no fitting parameters)

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