

Abstract Submitted
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Frequency-Domain Streak Camera for Ultrafast Imaging of Evolving Light-Velocity Objects ZHENGYAN LI, RAFAL ZGADZAJ, XIAOMING WANG, STEPHEN REED, YANG ZHAO, MICHAEL DOWNER, University of Texas at Austin — We demonstrate a frequency-domain streak camera (FDSC) that captures the picosecond evolution of luminal velocity refractive index structures in a single shot. In FDSC, a probe-reference pulse pair propagates obliquely to an evolving index structure generated by a pump pulse in glass, supplementing a conventional frequency-domain holographic (FDH) probe-reference pair that copropagates with the pump. A single spectrometer acquires data from both probes via spatial or temporal multiplexing, demonstrating the possibility of frequency-domain tomography (FDT) in which a single spectrometer processes data from over a dozen of probing angles.

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