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High Harmonic Generation from Solid Targets at High Repetition Rate JAMES EASTER, AGHAPI MORDOVANAKIS, BIXUE HOU, ALEC THOMAS, JOHN NEES, KARL KRUSHELNICK, University of Michigan — Harmonics of 800 nm light up to the 18th order are generated from solid targets by focusing 2 mJ, 50 fs pulses to a spot size of 1.7 μm (FWHM). This is the first demonstration of high-harmonic generation with a very short focal length paraboloid (f /1.4). The harmonics have a low divergence ($< 4\_$) compared to the driving beam and conversion efficiencies ($>$ 10-7 per harmonic) comparable to gas harmonics. No contrast enhancement techniques are employed and the system is capable of operating at 500 Hz.

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