

Fastest Waves Ever Photographed

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Matlis *et al.*, "Snapshots of laser wakefields," *Nature Physics* 2, 749 (2006)

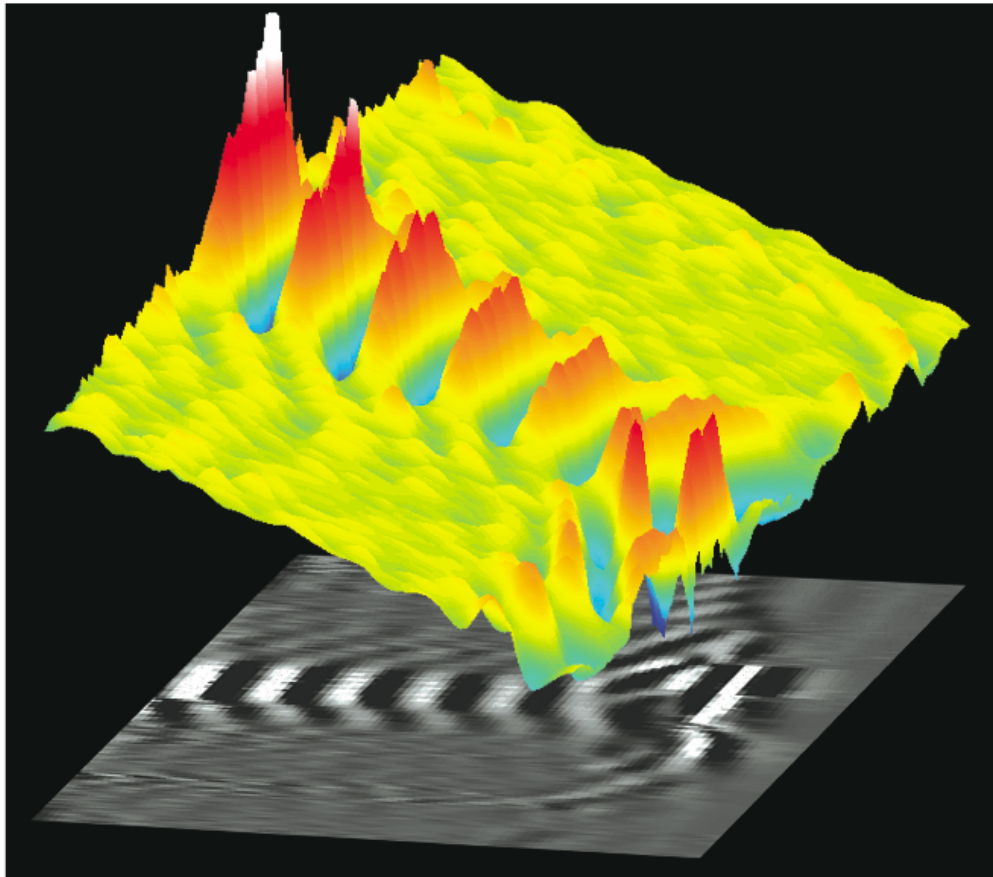


Image of a laser wakefield produced by a 30 terawatt pulse from the HERCULES laser in a plasma 1/10 as dense as our atmosphere. The color image is a 3D reconstruction of the oscillations; the grey-scale is a 2D projection of the same data. The wave is traveling to the right at 99.997% of the speed of light. It has curved crests, an important feature for producing a high-quality accelerated beam. Einstein predicted such curvature in the theory of relativity, but it has never previously been observed.

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