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## Electron acceleration in merging laser wakefields

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Merging laser beams can be used to replenish the driver in a seamless multistage laser-plasma accelerator, and can enhance the X-ray emission produced by betatron electron oscillations. We experimentally demonstrate merging of two laser wakefields in plasma. A 150 TW peak-power laser beam is split in two halves which are focused at a small angle in a gas. Each laser pulse drives a plasma wakefield and accelerates relativistic electrons. When the laser pulses are synchronized, a single, high-charge electron beam is emitted along the bisector angle.

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