



plasma wave (wakefield)

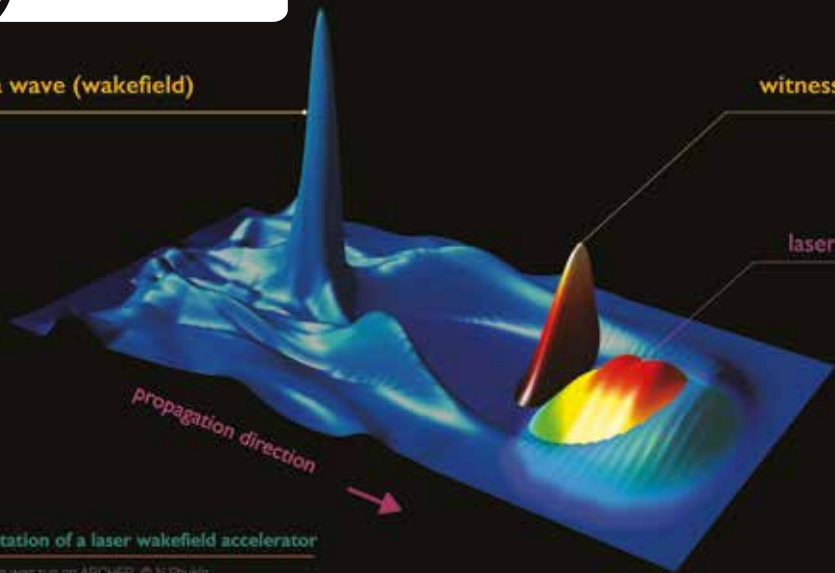
witness bunch

laser driver

propagation direction

2D representation of a laser wakefield accelerator

OSIRIS simulation was run on ARCHER © N.Shukla



The UK's National Supercomputing Service

Particles surf on plasma waves excited by high-power lasers

Miniaturization of particle accelerators would open the way to several applications, from light sources to cancer treatments. Laser wakefield acceleration is a promising candidate. Using a powerful laser to excite a wave in a plasma, an ionized gas and exploit the strong accelerating fields of the wave to accelerate electrons. The picture depicts a laser pulse (in color) causing a strong modulation in the plasma density (in blue) and thus driving the plasma wave.

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Image Competition: Image Entry and Overall Competition Winner 2020



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