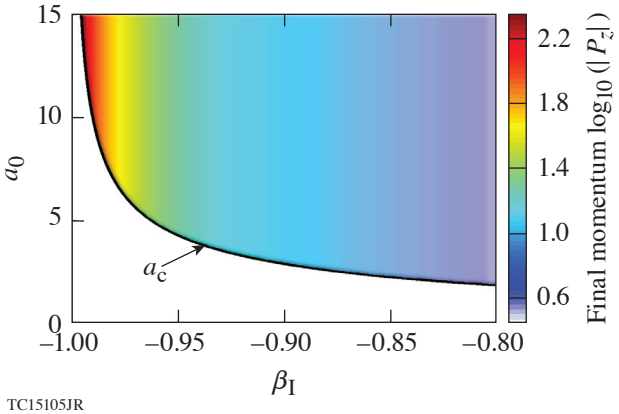
About the Cover:

The cover depicts a new vacuum-acceleration technique enabled by the subluminal intensity peaks of flying-focus pulses. The image on the top left shows a typical luminal intensity peak in vacuum. The electron, shown as a red dot, experiences equal and opposite ponderomotive accelerations on the leading and falling edges of the pulse, respectively, and gains no net energy. The image on the top right shows a flying focus with a subluminal intensity peak. After forward acceleration in the leading edge of the intensity peak, the electron outruns the peak and retains the energy it gained. The bottom image inset shows a negatively chirped flying focus with a subluminal intensity peak that travels in the opposite direction of the pulse. After backward acceleration in the leading edge, the electron outruns the intensity peak and retains the energy it gained.



The image at the right shows the final momentum of an electron accelerated in a backward-propagating flying-focus intensity peak. Below a cutoff-normalized vector potential $\left(a_0 = eA_0/m_e c\right)$, an electron acquires a velocity insufficient to outrun the intensity peak and gains no net energy. Above the cutoff normalized vector potential, an accelerated electron is reflected from and will outrun the intensity peak, retaining the energy it gained, and the final momentum is independent of the maximum value of the normalized vector potential.

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