

Getting beyond the Laser Field Horizon: The Single Cycle High Energy Pulse Short Cut

Summary. *For several years EP and UCI have been pursuing a new technique based on high energy single cycle pulses compression in the X-ray regime beyond forecasted level set by the today's ELI program. This regime, will lead to revolutionary applications such as TeV accelerator on the chip, compact relativistic proton accelerator, sources of muon, neutrino and compact free electron laser that could reshape, fundamental science, medicine, material and environment ambits. This ambitious task warrants the creation of a task force formed by the most advanced laboratories eager to explore the regime beyond today's intensity horizon.*