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## Recent progress on GPU enabled OSIRIS

Fully relativistic particle-in-cell (PIC) simulations continue to be a critical pillar in plasma-based advanced accelerator concepts research. Modern state-of-the-art GPU supercomputers offer the potential to perform PIC simulations of unprecedented scale, but require robust and feature-rich codes which can fully leverage the computational resources. We have addressed this demand by adding GPU acceleration to the PIC code OSIRIS. We present an overview of CUDA implementation, some performance results, and simulations illustrating the capabilities of the code, including (1) thermal plasma simulations demonstrating strong absolute performance and weak scaling and (2) simulations of laser wakefield acceleration with dynamic load balancing. Areas for future effort will also be discussed.

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### Working group

WG7 : Linear Colliders

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