

Abstract Submitted  
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**Skeleton**

**Particle-in-Cell**

**Codes on Emerging Computer Architectures**<sup>1</sup> VIKTOR DECYK, TAJENDRA SINGH, WARREN MORI, UCLA — The UCLA Plasma Simulation Group has long been active in developing Particle-in-Cell (PIC) codes for parallel computers. In recent years, High Performance Computer (HPC) architectures are being increasingly complex, with up to 4 different layers of parallelism, each of which may require different programming styles. To help the plasma physics community cope with this challenge, we are providing documented, open source, parallel skeleton codes at the UCLA IDRE web site: <https://idre.ucla.edu/hpc/parallel-plasma-pic-codes>. These skeleton codes are deliberately simple, yet contain all the crucial pieces needed in a production code: deposit, push, reordering and a field solver. They illustrate a variety of parallel architectures for both electrostatic and electromagnetic PIC codes.

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