Abstracts

Parallel higher-order-compact time-domain solutions to Maxwell's equations

Time-domain local-operator methods are increasingly becoming valuable tools for simulating a wide range of systems over a wide range of frequencies. We present a higher-order-compact method addressing the cells-per-wavelength issue and a parallelism strategy addressing the wall-clock simulation time issue. These two research areas improve the viability of the these methods for use in an engineering design cycle allowing significantly larger problems to be run and allowing moderately large problems to be run significantly faster.

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