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ACE3P for RF structure simulation

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RF codes such as Comsol and CST Microwave Studio are powerful tools but they have some limitations. Most notably, simulation throughput is limited by the availability of expensive (and therefore typically scarce) solver seats. Furthermore, high-fidelity geometry meshing may be difficult.

SLAC has developed ACE3P, a 3D parallel code for RF structure simulation that runs on the National Energy Research Scientific Computing Center (NERSC). Simulations may be run relatively quickly in batch mode with extremely high geometry fidelity. We present a brief introduction to ACE3P, some example simulations from other experiments, and an assessment of its utility for ADMX.

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