

Accurate impedance computation and optimization for large accelerator structures



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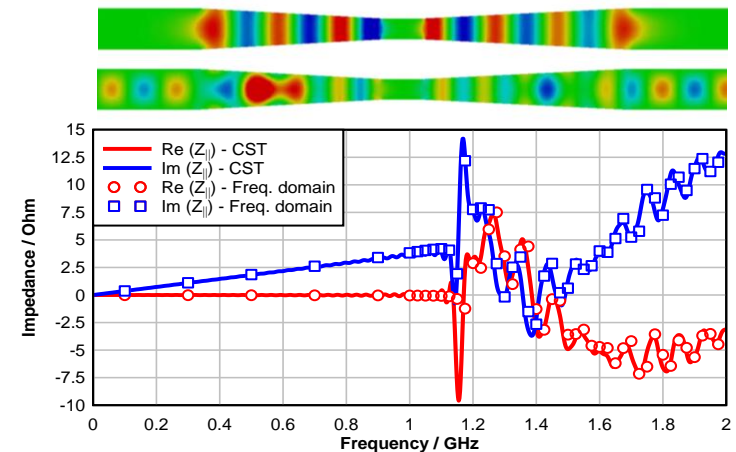
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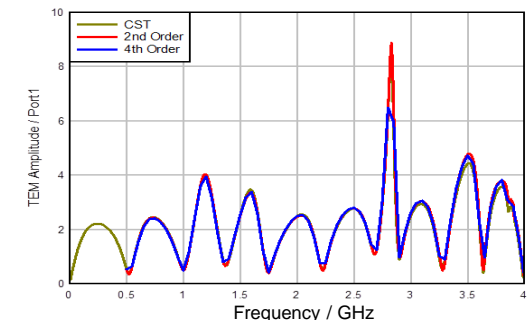
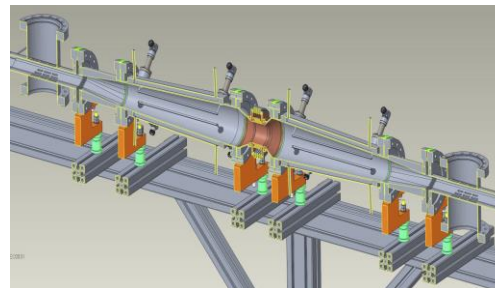


Impedance computation and optimization

- New approach for 3D wakefield/impedance computations based on high order frequency domain solution
 - **Low frequency impedances:** long range wakes, bunch trains, wall heating
 - **Accurate geometry description:** small details, smooth taperings, etc.
 - **Dispersive problems:** lossy wall, rough surface impedance, coated pipes
 - **Radiation effects:** curved beam trajectories, accelerated beams
 - **Beam signal analysis:** coupler and pickup signals in the frequency domain

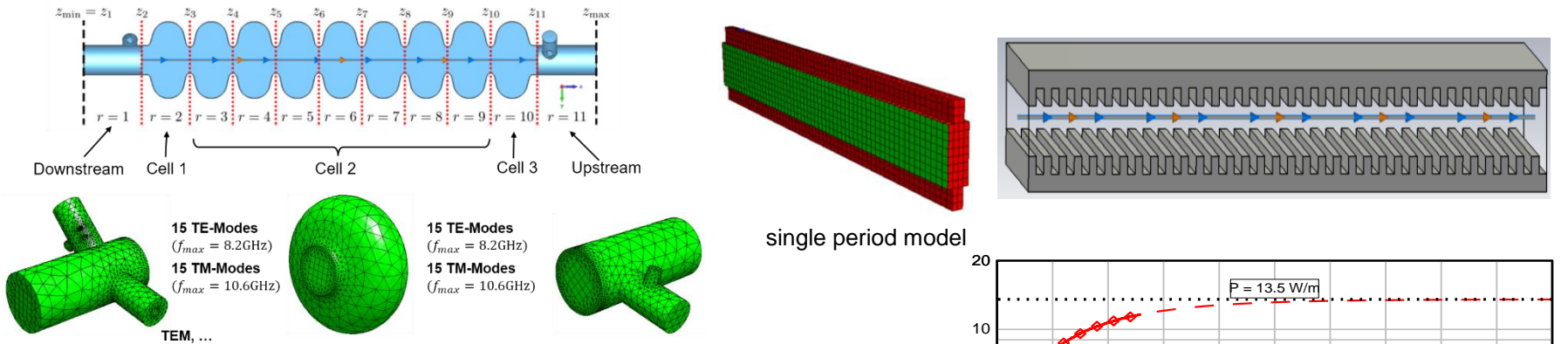


Collimating shielding bellows, Bessy-T2

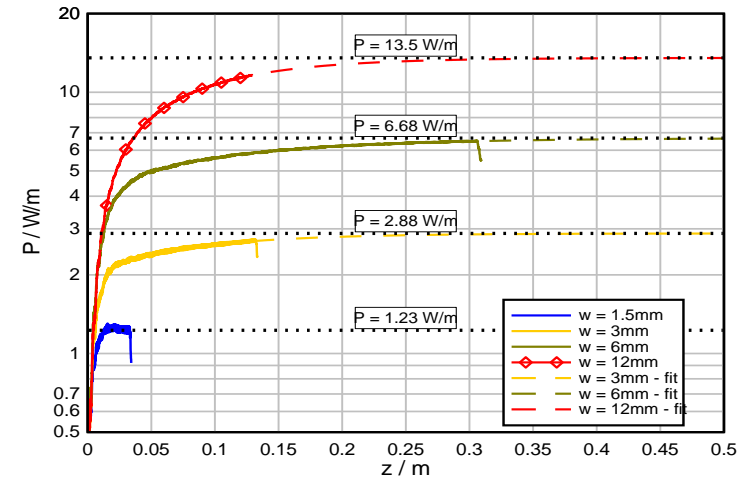
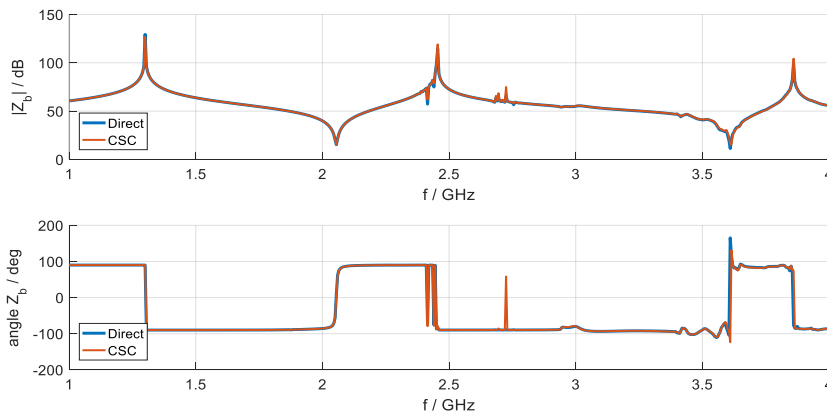


Impedance computation and optimization

Structures of arbitrary length using S-parameter coupling



Cellwise impedance concatenation for Tesla cavity



Losses in corrugated plate dechirper (DESY/LCLS-II)