

Incoherent e-cloud simulations in GPUs

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Incoherent effects from e-clouds in the LHC/HL-LHC arcs:

- Short term
- At least 6 GPUs (V100 equiv.) , more will be used if available.
- Job submission
- Linux, xsuite
- No advantage of multi-node.
- GPU memory > 10 GB. Option for large memory would enable studies with a more complete e-cloud model.
- Large storage space (slow): ~ 10 TB/year

Incoherent effects from e-clouds in the LHC/HL-LHC Inner-Triplets:

- Medium term, **simulation method in development:**
- At least 8 GPUs (V100 equiv.), more will be used if available
- Job submission
- Linux, xsuite
- Multi-GPU nodes connected with NVLINK
- E-cloud model of Inner Triplets will be memory limited (GPU memory > 40 GB) , thus with multi-gpu we can increase total memory. Will require some development in xsuite.
- Large storage space (slow): ~ 10 TB/year