

---

Jonathan Cohen  
**Domain decomposition and multilevel methods on GPUs**

Nvidia Corporation  
xxx xxxx  
jocohen@nvidia.com

Modern GPUs are highly efficient massively parallel general purposes processors. A single high-end GPU from NVIDIA can achieve several hundred GFLOPS/s in double precision arithmetic. Because of their inherently parallel and high-throughput nature, they are a natural fit for domain decomposition and multi-level methods. I will give a brief technical overview of NVIDIA's CUDA platform for GPU computing, and present initial work to develop sparse linear solvers using CUDA.