Abstract

We present how we have implemented a generic nonlinear Discontinuous Galerkin (DG) method in the OpenCL/MPI framework in order to achieve high efficiency. The implementation relies on a splitting of the DG mesh into sub-domains and sub-zones. Different kernels are compiled according to the zones properties. We rely on the OpenCL asynchronous task graph driver in order to overlap OpenCL computations and data transfers. We show real-world industrial electromagnetic applications.