Mixed Precision Algebraic Multigrid Preconditioning

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We present the platform-portable mixed Algebraic Multigrid (AMG) on AMD/NVIDIA/Intel GPUs. Users can easily decide the precision of each level and coarsening methods to build their own mixed AMG. We test the performance of AMG preconditioning CG solver with the examples from MFEM against the other libraries on NVIDIA GPU. Also, we test the standalone AMG on different vendors' GPUs and show the difference between mixed and double precision.

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