

HW4

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1. Let the dimension of the matrix be  $10240 \times 10240$ .

then:

Server	bandwidth (GPU)
cuda 1	19.8 GB/s
cuda 2	24.3 GB/s
cuda 3	13.4 GB/s
cuda 4	12.4 GB/s
cuda 5	8.0 GB/s

The code file is `gpu_matvec.cu`

2 The code file is `gpu_jacobi.cu`

when the dimension of the matrix is  $128 \times 128$ ,

CPU: 0.07s

GPU: 0.004 s

3, I have written the serial codes for our algorithm in C++, the work left to do is to add "openmp" to our codes and run some results to compare.