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EECS 245 – Parallel Computing

Lab 01

**1.** Number of Devices: 1

Maximum shared memory per thread block: 49152

Maximum dimension size of a thread block: 1024 1024 64

Maximum number of registers per thread block: 65536

Global memory size: 8192 MBytes

**2.1**.



**2.2.** Had issues with the texture memory. Could not get this to run.

**2.3.**



**2.4.1**. GPU Occupancy: Best occupancy was from constant memory.

Original kernel: Theoretical:100%, Actual: 73.3%

Texture memory: Could not run texture memory

Constant memory: Theoretical:100%, Actual: 81.1%

**2.4.2.** DRAM utilization: Best utilization from running the programs was from constant memory because constant memory is cached. Theoretically texture memory should perform well too since it is also cached.

Original kernel: Mid(4)

Texture memory: Could not run texture memory

Constant memory: Low(3)

**2.4.3.** L2 cache utilization: Could not determine from running the programs, but both texture and constant memory are cached so their utilization should be better than global memory.

Original kernel: Low(1)

Texture memory: Could not run texture memory

Constant memory: Low(1)

3.

