

FFT Algorithm Comparison for GPUs and CPUs

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FFT Algorithm

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GPU Speeds

The FFT Algorithm has time complexity of $O(N \log N)$. The average GPU has hundreds to tens of thousands of cores. It can compute things in parallel.

Using an average graphics card we expect 4-8 TFLOPs (10^{12} operations)

For a DFT with $N = 1\text{million}$: $(10^6)^2 \cdot \frac{1}{4 \cdot 10^{12}} = \text{somenumber}$