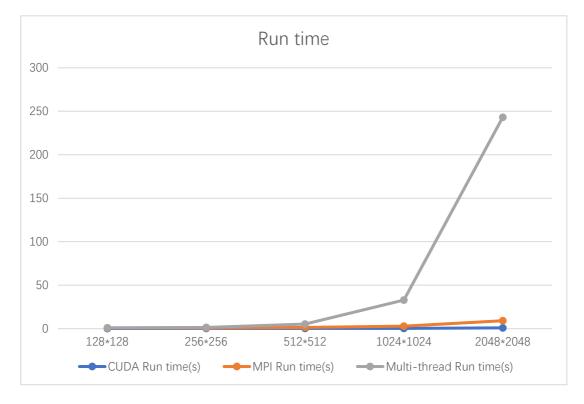
**Final Report** 

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(Timing method: Using UNIX time command)

## 1. C++ Multi-Thread:

Size	Run time (s)
128 × 128	0.09
256 × 256	0.555
512 × 512	3.975
1024 × 1024	30.069
$2048 \times 2048$	234.004

## 2. **MPI**:

Size	Run time (s)
128 × 128	0.649
256 × 256	0.726
512 × 512	1.074
1024 × 1024	2.488
2048 × 2048	8.201

## 3. CUDA:

Size	Run time (s)
128 × 128	0.241
256 × 256	0.254
512 × 512	0.285
1024 × 1024	0.413
2048 × 2048	0.948