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Here are the different experiments I performed in order to find an appropriate number of threads.

0.99 .85 0.9

We have 41725 points in the dominant plane

We have 22125 points remaining after belonging to the dominant plane have been removed

Number of threads 4

Finished in 123 milliseconds

0.99 .85 0.45

We have 35521 points in the dominant plane

We have 28329 points remaining after belonging to the dominant plane have been removed

Number of threads 4

Finished in 125 milliseconds

0.99 0.5 0.9

We have 42336 points in the dominant plane

We have 21514 points remaining after belonging to the dominant plane have been removed

Number of threads 34

Finished in 124 milliseconds

0.99 .85 0.20

We have 29339 points in the dominant plane

We have 34511 points remaining after belonging to the dominant plane have been removed

Number of threads 4

Finished in 123 milliseconds

0.99 .60 0.20

We have 31840 points in the dominant plane

We have 32010 points remaining after belonging to the dominant plane have been removed

Number of threads 18

Finished in 125 milliseconds

0.99 .60 0.45

We have 35406 points in the dominant plane

We have 28444 points remaining after belonging to the dominant plane have been removed

Number of threads 18

Finished in 119 milliseconds

0.99 .60 0.9

We have 43168 points in the dominant plane

We have 20682 points remaining after belonging to the dominant plane have been removed

Number of threads 18

Finished in 121 milliseconds

0.99 .70 0.9

We have 42570 points in the dominant plane

We have 21280 points remaining after belonging to the dominant plane have been removed

Number of threads 10

Finished in 125 milliseconds

0.99 .70 0.45

We have 35658 points in the dominant plane

We have 28192 points remaining after belonging to the dominant plane have been removed

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Number of threads 10
Finished in 118 milliseconds

0.99 .70 0.20
We have 21185 points in the dominant plane
We have 42665 points remaining after belonging to the dominant plane have been removed
Number of threads 10
Finished in 121 milliseconds

0.99 .45 0.9
We have 43361 points in the dominant plane
We have 20489 points remaining after belonging to the dominant plane have been removed
Number of threads 48
Finished in 122 milliseconds

0.99 .45 0.45
We have 35388 points in the dominant plane
We have 28462 points remaining after belonging to the dominant plane have been removed
Number of threads 48
Finished in 122 milliseconds

0.99 .45 0.20
We have 32145 points in the dominant plane
We have 31705 points remaining after belonging to the dominant plane have been removed
Number of threads 48
Finished in 125 milliseconds

0.99 .70 0.9
We have 42988 points in the dominant plane
We have 37089 points remaining after belonging to the dominant plane have been removed
Number of threads 10
Finished in 156 milliseconds

0.99 .85 0.9
We have 27210 points in the dominant plane
We have 52867 points remaining after belonging to the dominant plane have been removed
Number of threads 4
Finished in 157 milliseconds

0.99 .85 0.9
We have 46071 points in the dominant plane
We have 33276 points remaining after belonging to the dominant plane have been removed
Number of threads 4
Finished in 153 milliseconds

0.99 0.40 0.9
We have 43253 points in the dominant plane
We have 20597 points remaining after belonging to the dominant plane have been removed
Number of threads 69
Finished in 120 milliseconds

Runtime versus number of threads for different configurations

On this graph we can see the number of threads in the horizontal axis and the runtime in milliseconds on the vertical axis.

We see that despite the large variation in the number of threads, the execution time does not change remarkably.

The execution time is almost constant regardless of the number of threads. And this is not surprising because the threads are executed concurrently at stage 5 of our pipeline , with supporting points finder.

