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RC++ Execution Times

(in seconds)

Matrix size: 100x100

```
0.0020051
0.00197506
0.002007961
```

Matrix size: 175x175

```
0.009022951
0.008987904
0.008021116
```

Matrix size: 250x250

```
0.02406383
0.02456689
0.02406406
```

Code to reproduce RC++ execution time results:

```
x = matrix(runif(30625),nrow=175,ncol=175)
start.time <- Sys.time()
mySweepC(x,175)
end.time <- Sys.time()
time.taken <- end.time - start.time
print(time.taken)
```

R Execution Times

(in seconds)

Matrix size: 100x100

```
0.358119
0.3544559
0.4157109
```

Matrix size: 175x175

```
19.60833
19.81161
19.2025
```

Matrix size: 250x250

```
55.68337
56.17705
54.52212
```

Code to reproduce R execution time results:

```
x = matrix(runif(30625),nrow=175,ncol=175)
start.time <- Sys.time()
mySweep(x,175)
end.time <- Sys.time()
time.taken <- end.time - start.time
print(time.taken)
```

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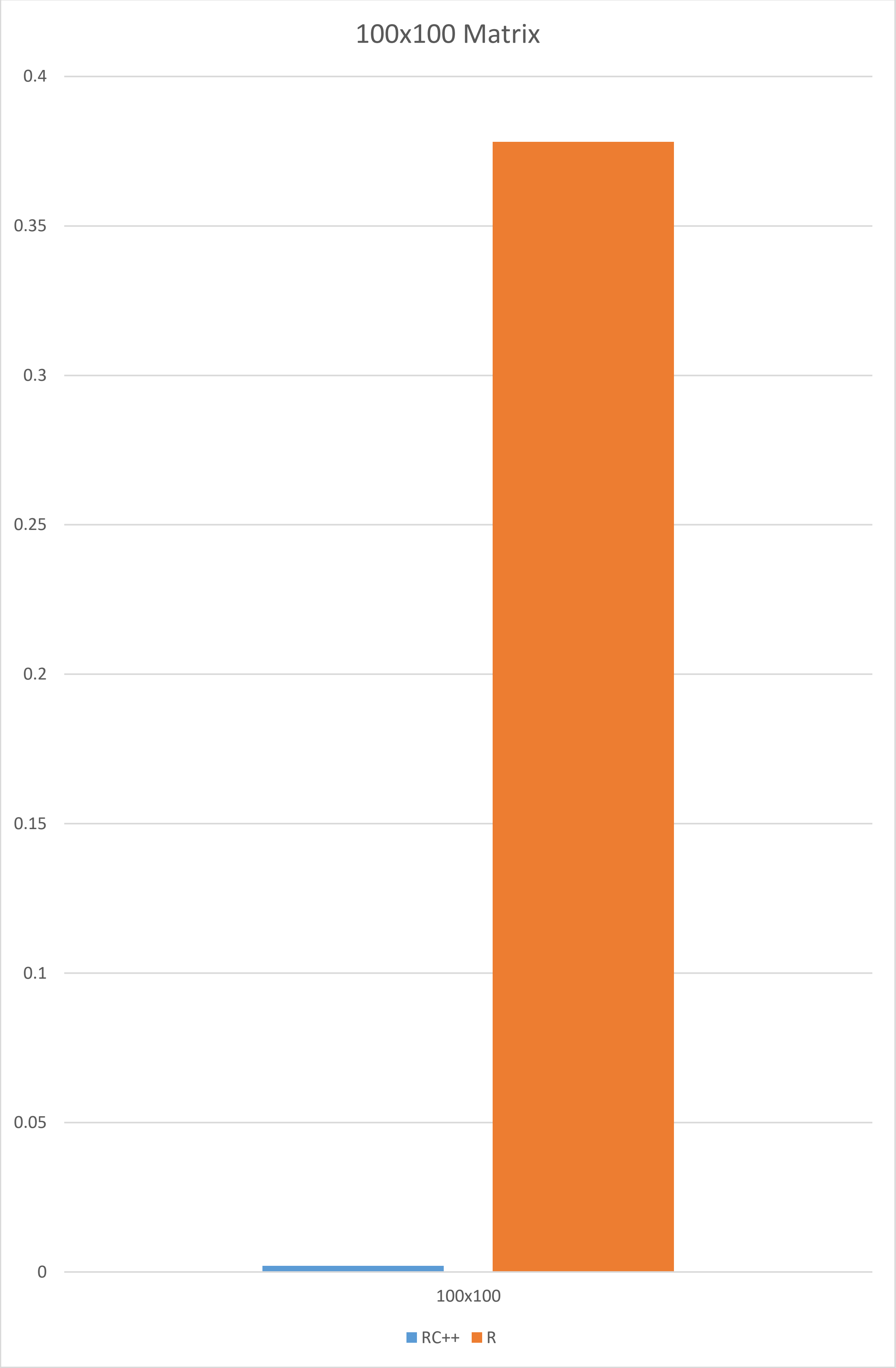
```
0.002007961 sec vs 0.3544559 sec
```



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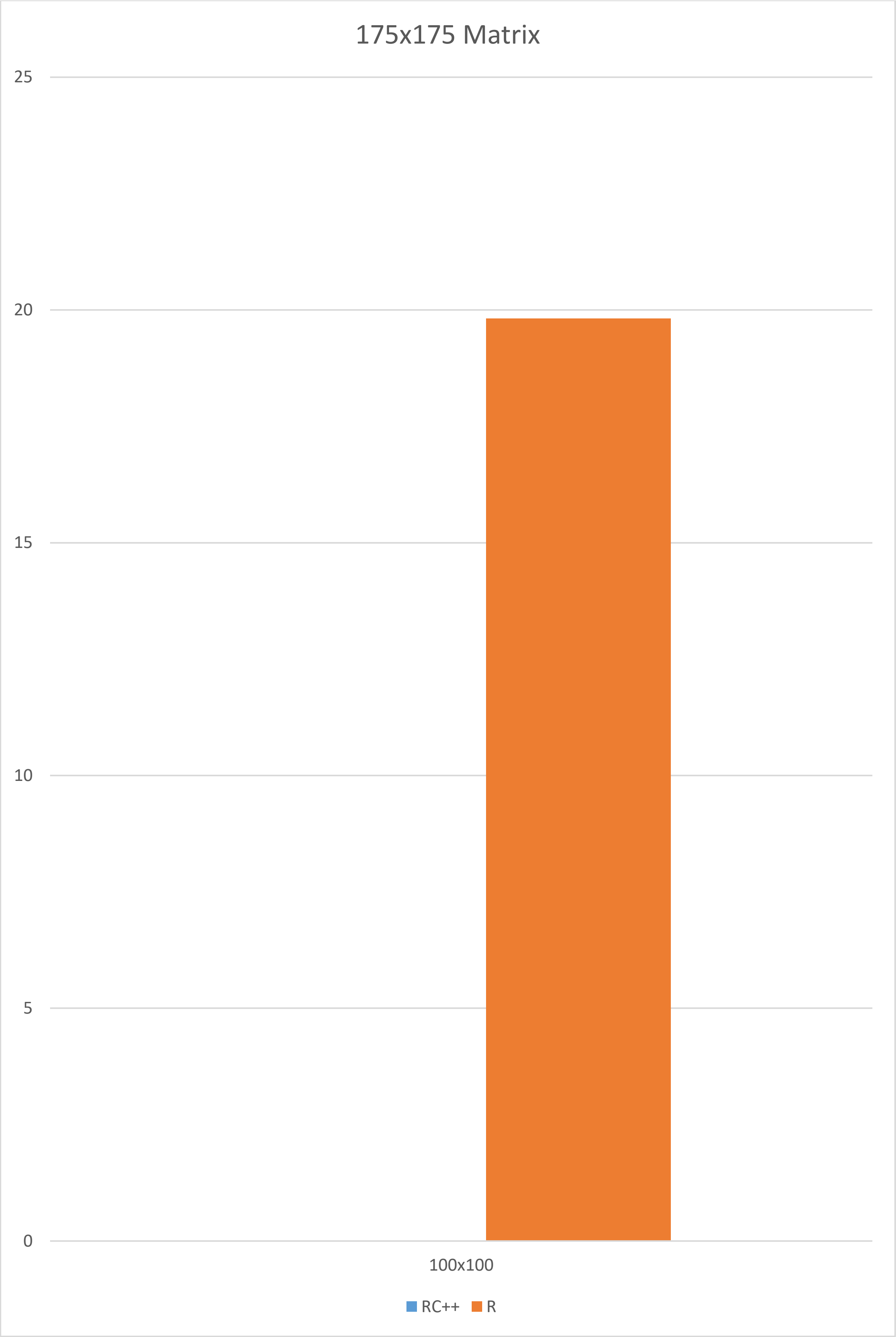
```
0.008987904 sec vs 19.60833 sec
```



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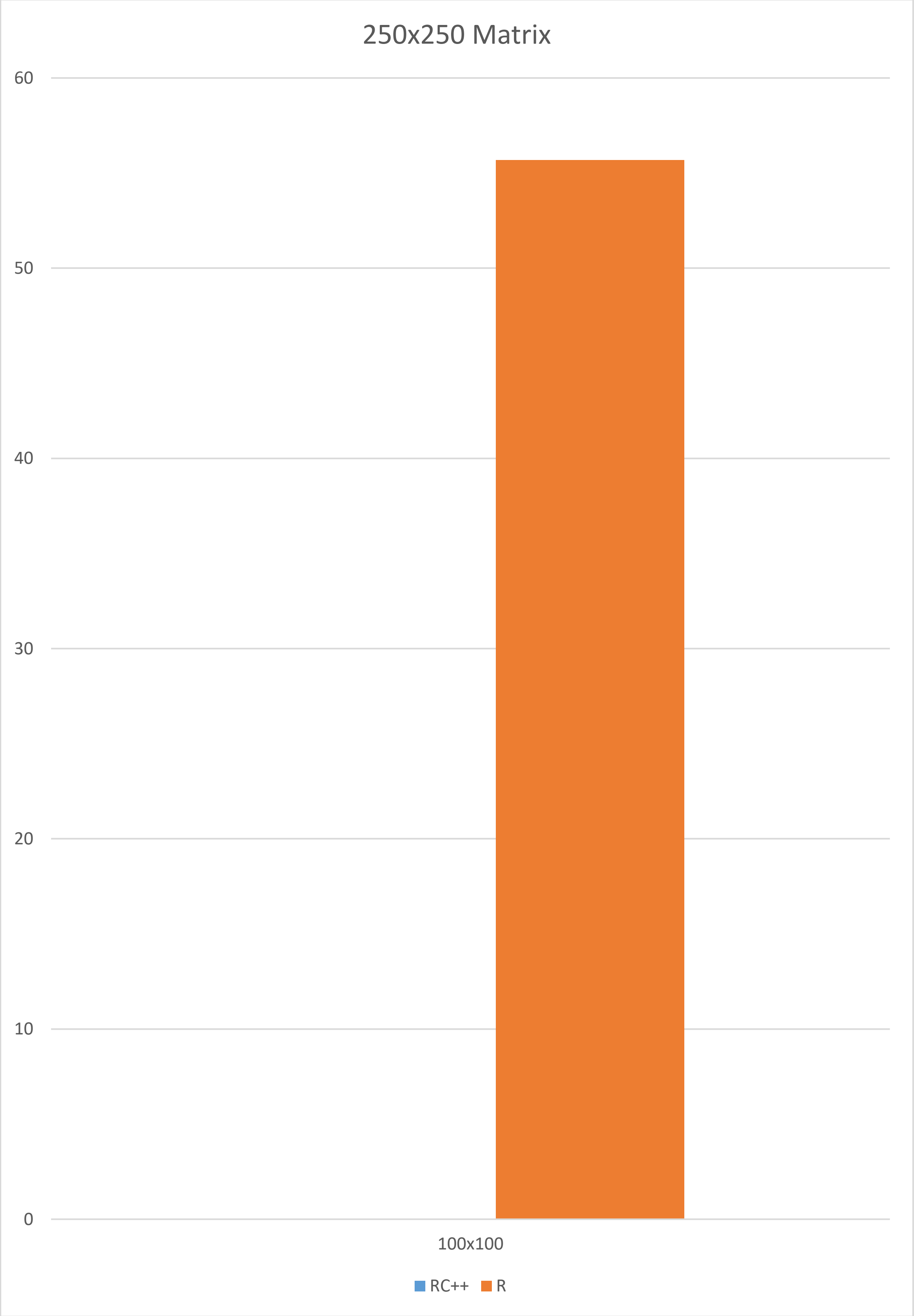
```
0.02456689 sec vs 55.68337 sec
```



Thus, we can see that the speedup that RCpp gives over R is:

100x100: 207 times

175x175: 2204 times

250x250: 2286 times

Thus, the larger the matrix, the better the speedup, thanks mainly to gcc’s native loop unrolling.