

The graph shows the execution time in milliseconds for a parallel sum operation with standard deviation across different thread counts. The four series represent different values: 100000 (blue), 200000 (red), 300000 (yellow), and 400000 (green). The time generally decreases as the number of threads increases from 1 to 4, after which it remains relatively stable or shows a slight upward trend.

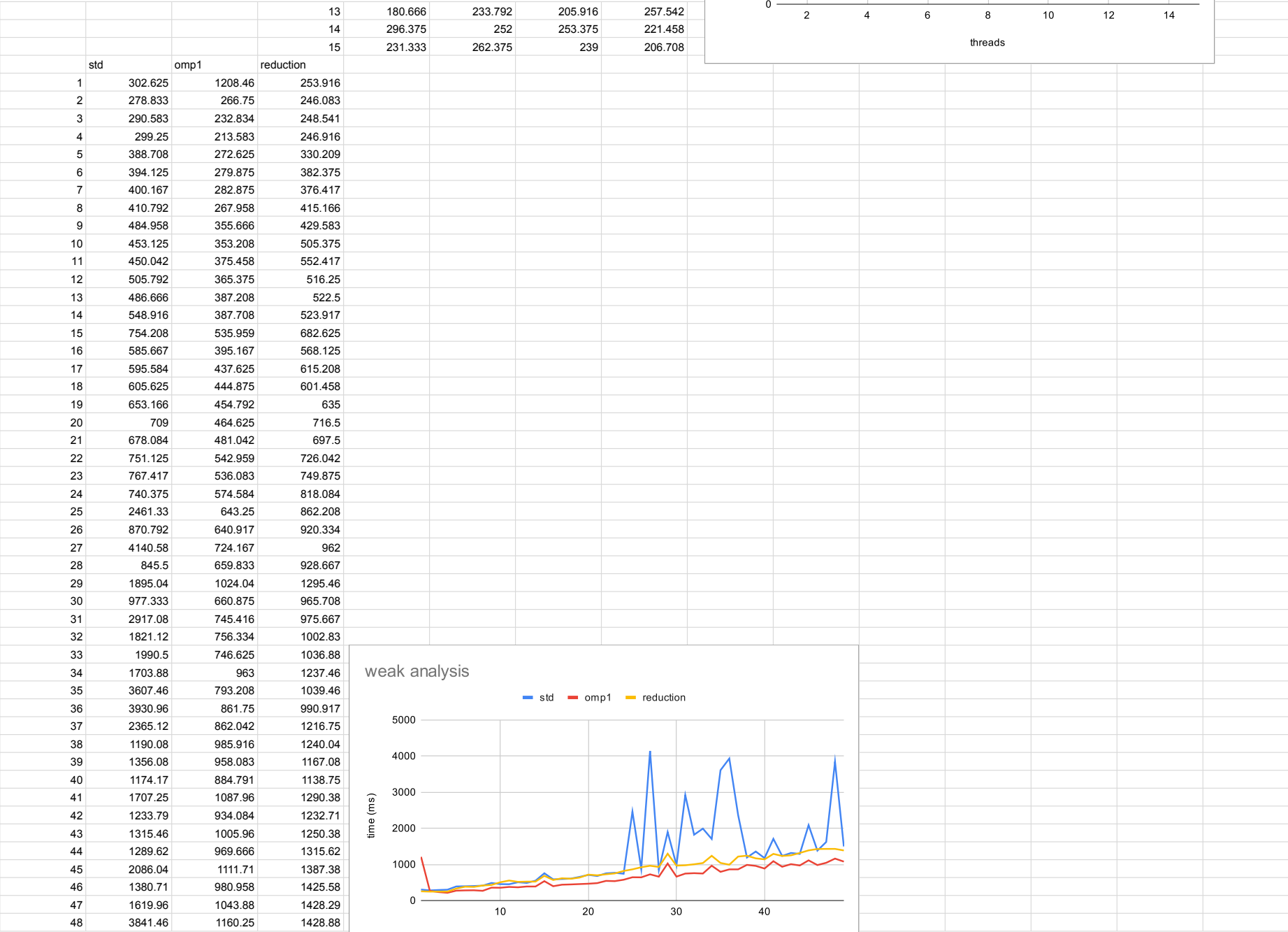
threads	100000 (ms)	200000 (ms)	300000 (ms)	400000 (ms)
1	520	740	740	880
2	290	400	400	420
3	270	300	300	300
4	260	320	280	280
5	260	350	350	300
6	240	300	280	300
7	260	280	260	280
8	280	280	260	260
9	280	280	240	240
10	260	280	260	260
11	260	380	260	260
12	260	280	260	260
13	260	280	260	260
14	260	260	260	240
15	360	300	240	240

The graph illustrates the performance of a parallel summation algorithm using OpenMP. The y-axis represents time in milliseconds, ranging from 0 to 1250. The x-axis represents the number of threads, ranging from 1 to 15. Four data series are plotted, corresponding to different values of the variable being summed: 100000 (blue), 200000 (red), 300000 (yellow), and 400000 (green). All series show a sharp decrease in time as the number of threads increases from 1 to 2, followed by a period of relative stability or slight fluctuation between 3 and 15 threads. The 100000 series consistently shows the highest time, while the 200000, 300000, and 400000 series are clustered together, showing lower times.

Threads	100000 (ms)	200000 (ms)	300000 (ms)	400000 (ms)
1	1050	520	500	600
2	300	250	250	300
3	200	180	180	180
4	220	150	150	150
5	250	150	150	150
6	200	150	150	150
7	180	150	150	150
8	150	120	120	120
9	180	120	120	120
10	180	150	150	150
11	180	150	150	150
12	150	150	150	150
13	150	150	150	150
14	150	150	150	150
15	180	180	180	180

parallel\_sum\_builtin

Processors	100000 (ms)	200000 (ms)	300000 (ms)	400000 (ms)
1	500	650	700	800
2	260	380	400	380
4	180	260	280	260
8	140	200	220	200
16	110	160	180	160
32	100	150	170	150
64	110	160	180	160
128	100	150	170	150
256	180	250	260	240
512	250	260	270	240
1024	260	270	280	240



[illegible]