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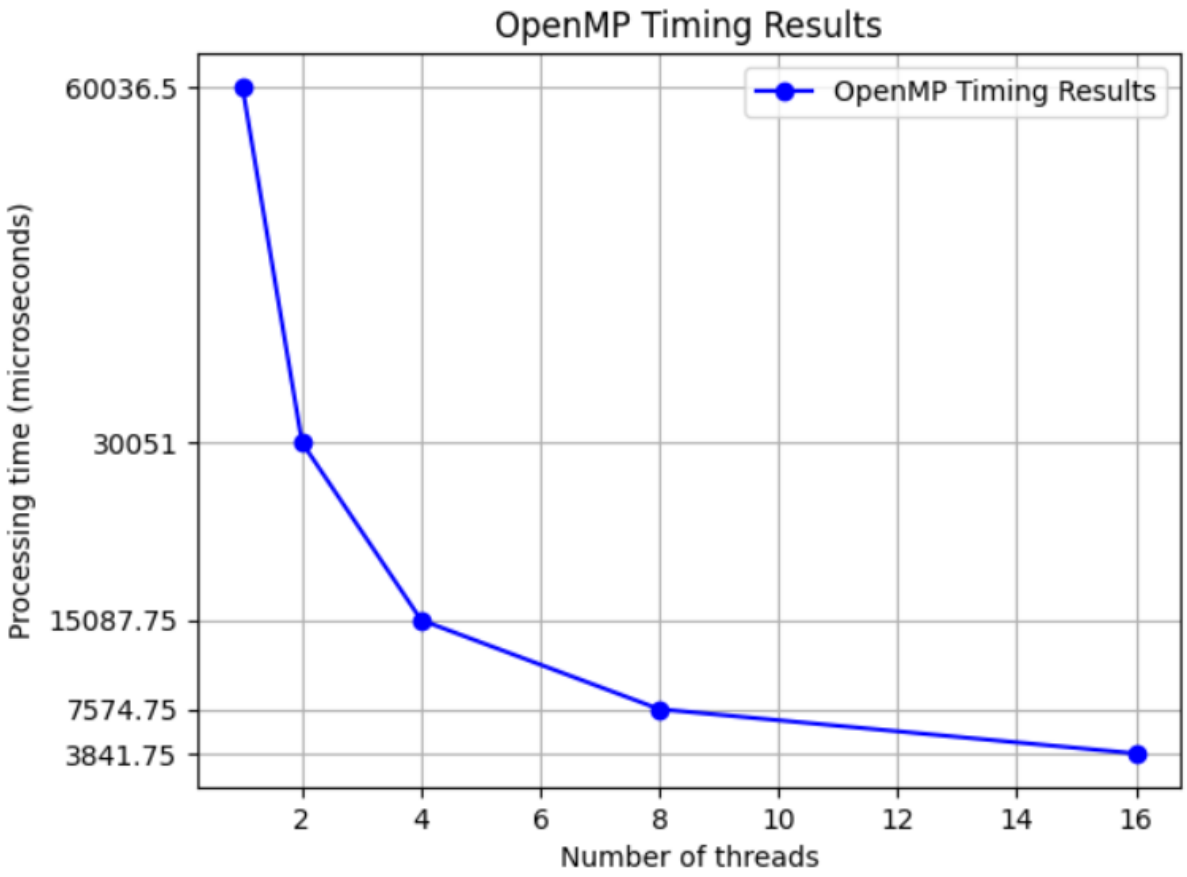
6122 Lab 2: Using OpenMP to Calculate the Electric Field Produced by Array of Point Charges



As the number of threads increases from 1 to 16 in an OpenMP program, the processing time for a particular task decreases significantly, highlighting the task's potential for parallelization. The reduction in processing time is most substantial when going from 1 to 2 and from 4 to 8 threads, indicating effective parallelization and improved performance. However, the diminishing returns observed when moving from 8 to 16 threads suggest that there's an optimal balance between parallelism and overhead, with hardware limitations playing a role in the efficiency of parallel execution beyond a certain thread count.