

Internship presentation

Brieuc NICOLAS

June-August 2022

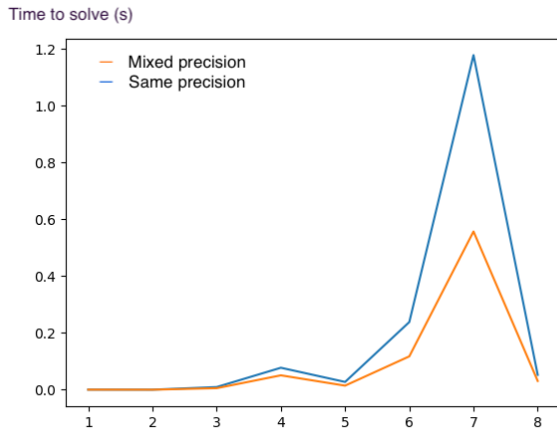
Self presentation

- 1 first year student at Enseirb-MATMECA, major in computer sciences
- 2 Internship : Implementing mixed-precision algorithms in PaStiX
- 3 Team TOPAL with Mathieu Faverge and Pierre Ramet

Internship presentation

- 1 Perform numerical factorization in mixed-precision : When factorizing $Ax = b$ into $LUx = b$, have L and U stored in simple precision instead of double
- 2 Solve $LUx = b$ with previously obtained matrixes
- 3 Perform an iterative refinement of the solution

First results



Comparison of the time to solve in normal and mixed precision for 8 different matrixes

Conclusion

Work to be done:

- 1 Evaluating the time saved by this method
- 2 Implementing benchmarking tests for plafrim