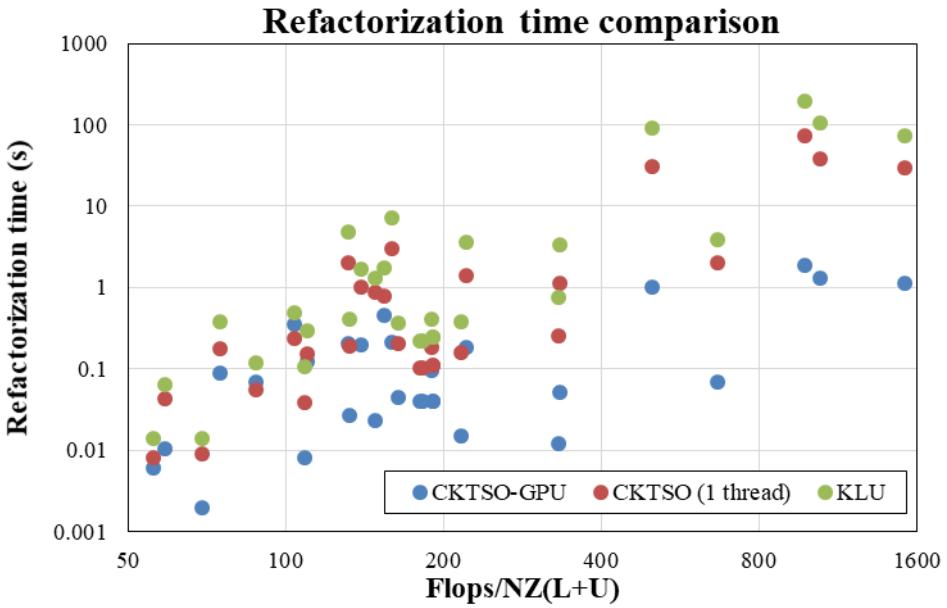
Results of CKTSO-GPU

CKTSO-GPU (version 20221123) is compared with CKTSO and KLU. The hardware and software configurations for testing CPU-based solvers are listed in the following table. KLU uses the ordering results of CKTSO.

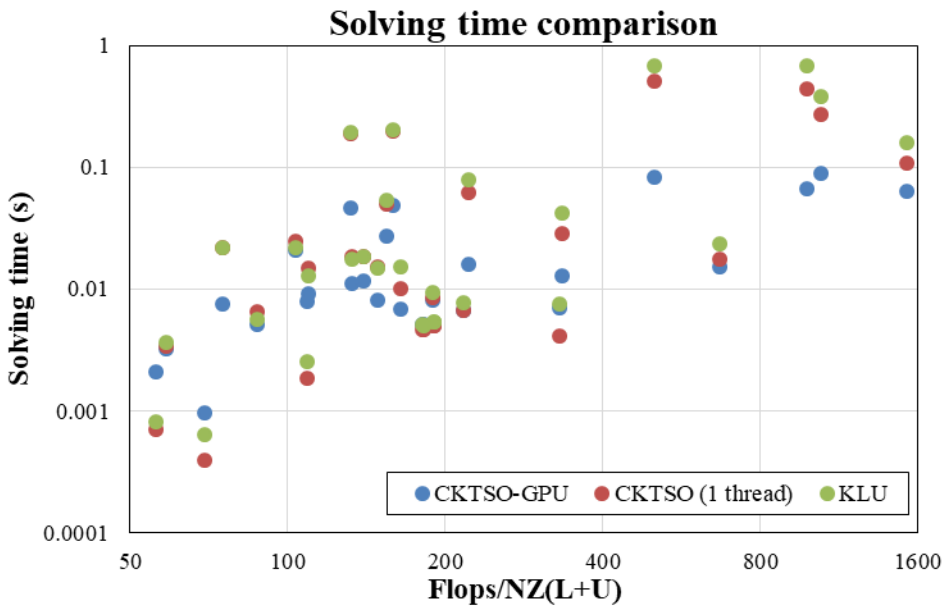
Operating system	CentOS 7.9.2009 x64
Compiler	gcc 4.8.5
CPU	Intel Xeon Gold 6130 (16 cores, 2.1GHz)
Memory	256GB
Benchmarks	29 circuit matrices from SuiteSparse Matrix Collection with Flops/NZ(L+U)>50
Integer bitwidth	32 bits
Baselines	1) CKTSO version 20221123 2) KLU version 1.3.9

1. Re-factorization Performance



On arithmetic/geometric mean, CKTSO-GPU is 11.28X/5.90X faster than CKTSO (1 thread) and 27.02X/12.83X faster than KLU.

2. Solving Performance



On arithmetic/geometric mean, CKTSO-GPU is 1.96X/1.46X faster than CKTSO (1 thread) and 2.38X/1.71X faster than KLU.