1c



2c



The performance is improved till t gets 7. When t > 7, the performance is limited by main memory bandwidth.

2d



by setting below environment variables, it achieves more NUMA-friendly.

export OMP\_PLACES=threads, since I want to restrict candidate places to be thread-level.

export OMP\_PROC\_BIND=close, since the Convolve function is computation bound.

The task\_op pattern gets better performance after t >= 10.

3c



When ts = 128, it gets the best performance.

