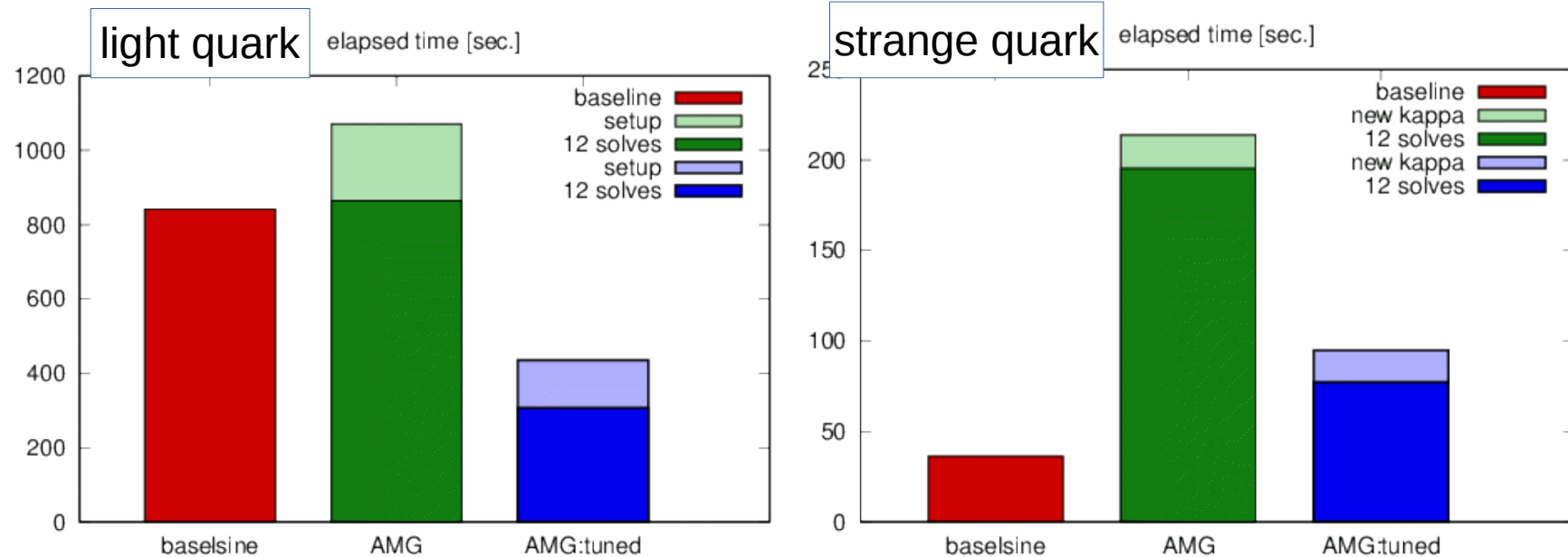


# Algebraic Multigrid Solver (DDalphaAMG) on K Computer

even with poor efficiency, throughput is better than the well tuned traditional solver (light quark)  
For strange quark, the traditional one is faster on K



**baseline:** well tuned solver for K [efficiency: 22%]

mixed precision FBiCGstab solver, where the single precision solver uses Domain decomposition. The solver inside the domain is an even odd preconditioned SSOR.

cf. K.-I.Ishikawa et al [PACS collaboration]., PoS LATTICE2015(2016) 075

**AMG(before tuning)** [efficiency 3.0%]

cf. A.Frommer et al., SIAM J.Sci. Comput. 36 (2014) A1581;<https://github.com/DDalphaAMG>

**AMG: tuned** [efficiency 5.3%] **THIS WORK**

cf. <https://github.com/i-kanamori/DDalphaAMG/tree/K/>

Configuration:  $n_f=2+1$  clover,  $96^4$  lattice,  $m_\pi=146$  MeV,  $1/a=2.33$  GeV [PACS]