

www.phoronix-test-suite.com

5600u 2021

Intel Core i7-5600U testing with a LENOVO 20BSCTO1WW (N14ET49W 1.27 BIOS) and Intel HD 5500 BDW GT2 3GB on Ubuntu 21.10 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 61% of the tests.

Based on the geometric mean of all complete results, the fastest (C) was 1.003x the speed of the slowest (B). A was 0.998x the speed of C and B was 0.999x the speed of A.

The results with the greatest spread from best to worst included:

ONNX Runtime (Model: fcn-resnet101-11 - Device: CPU) at 1.067x
Zstd Compression (Compression Level: 19 - Compression Speed) at 1.041x
PyHPC Benchmarks (Device: CPU - Backend: JAX - Project Size: 65536 - Benchmark: Isoneutral Mixing) at 1.04x
Zstd Compression (Compression Level: 3 - Compression Speed) at 1.038x
Zstd Compression (Compression Level: 8 - Compression Speed) at 1.038x
PyHPC Benchmarks (Device: CPU - Backend: JAX - Project Size: 4194304 - Benchmark: Equation of State) at 1.037x
PyHPC Benchmarks (Device: CPU - Backend: TensorFlow - Project Size: 1048576 - Benchmark: Equation of State) at 1.037x
Zstd Compression (Compression Level: 19, Long Mode - Compression Speed) at 1.036x

PyHPC Benchmarks (Device: CPU - Backend: Numpy - Project Size: 65536 - Benchmark: Equation of State) at 1.034x
PyHPC Benchmarks (Device: CPU - Backend: Aesara - Project Size: 65536 - Benchmark: Isoneutral Mixing) at 1.03x.

Test Systems:

A

B

C

Processor: Intel Core i7-5600U @ 3.20GHz (2 Cores / 4 Threads), Motherboard: LENOVO 20BSCTO1WW (N14ET49W 1.27 BIOS), Chipset: Intel Broadwell-U-OPI, Memory: 8GB, Disk: 128GB SAMSUNG MZNTE128, Graphics: Intel HD 5500 BDW GT2 3GB (950MHz), Audio: Intel Broadwell-U Audio, Network: Intel I218-LM + Intel 7265

OS: Ubuntu 21.10, Kernel: 5.13.0-21-generic (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 21.2.2, Vulkan: 1.2.182, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_cpufreq schedutil - CPU Microcode: 0x2f - Thermald 2.4.6
Python Notes: Python 3.9.7
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Mitigation of Clear buffers; SMT vulnerable

	A	B	C
Sockperf - Throughput (Messages/sec)	**350505**	322628	**316802**
Normalized	100%	92.05%	90.38%
Standard Deviation		9.8%	11.1%
Sockperf - Latency Ping Pong (usec)	**12.188**	9.708	**8.876**
Normalized	72.83%	91.43%	100%
Standard Deviation		40.7%	33.5%
Sockperf - Latency Under Load (usec)	**17.331**	**13.214**	13.736
Normalized	76.24%	100%	96.2%
Standard Deviation		24.2%	23.2%
BLAKE2 (Cycles/Byte)	**5.12**	**5.13**	**5.12**
Normalized	100%	99.81%	100%
Standard Deviation		0%	0.1%

Zstd Compression - 3 - Compression Speed (MB/s)	608.2	627.1	631.3
Normalized	96.34%	99.33%	100%
Standard Deviation		1.2%	1.1%
Zstd Compression - 3 - D.S (MB/s)	2445	2455	2454
Normalized	99.6%	100%	99.96%
Standard Deviation		0.1%	0%
Zstd Compression - 8 - Compression Speed (MB/s)	112.7	108.6	111.7
Normalized	100%	96.36%	99.11%
Standard Deviation		0.5%	1.1%
Zstd Compression - 8 - D.S (MB/s)	2523	2532	2531
Normalized	99.66%	100%	99.97%
Standard Deviation		0.1%	0.1%
Zstd Compression - 19 - Compression Speed (MB/s)	8.14	8.47	8.30
Normalized	96.1%	100%	97.99%
Standard Deviation		0.4%	0.9%
Zstd Compression - 19 - D.S (MB/s)	2184	2195	2203
Normalized	99.14%	99.64%	100%
Standard Deviation		0.4%	0%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	260.1	253.3	259.2
Normalized	100%	97.39%	99.65%
Standard Deviation		1.3%	0.4%
Zstd Compression - 3, Long Mode - D.S	2616	2614	2612
Normalized	100%	99.92%	99.84%
Standard Deviation		0.2%	0.4%
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	111	108.5	111.1
Normalized	99.91%	97.66%	100%
Standard Deviation		0.5%	0.1%
Zstd Compression - 8, Long Mode - D.S	2691	2697	2697
Normalized	99.76%	100%	99.99%
Standard Deviation		0.2%	0.1%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	7.46	7.36	7.20
Normalized	100%	98.66%	96.51%
Standard Deviation		1.9%	2.7%
Zstd Compression - 19, Long Mode - D.S (MB/s)	2263	2263	2264
Normalized	99.96%	99.98%	100%
Standard Deviation		0.4%	0.2%
JPEG XL libjxl - PNG - 7 (MP/s)	3.16	3.16	3.16
Standard Deviation		0%	0.2%
JPEG XL libjxl - PNG - 8 (MP/s)	0.5	0.50	0.50
Standard Deviation		1.2%	1.1%
JPEG XL libjxl - JPEG - 7 (MP/s)	37.82	37.65	37.45
Normalized	100%	99.55%	99.02%
Standard Deviation		0.2%	1.1%
JPEG XL libjxl - JPEG - 8 (MP/s)	16.26	16.34	16.36
Normalized	99.39%	99.88%	100%
Standard Deviation		0.2%	0.2%
JPEG XL Decoding libjxl - 1 (MP/s)	34.16	34.17	34.07

Normalized	99.97%	100%	99.71%
Standard Deviation		0.2%	0.3%
JPEG XL Decoding libjxl - All (MP/s)	**40.77**	40.73	**40.18**
Normalized	100%	99.9%	98.55%
Standard Deviation		0.1%	1.7%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	**2.33**	**2.32**	**2.32**
Normalized	100%	99.57%	99.57%
Standard Deviation		0.7%	0.4%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	**1.45**	**1.44**	**1.44**
Normalized	100%	99.31%	99.31%
Standard Deviation		0%	0%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	**8.26**	8.23	**8.22**
Normalized	100%	99.64%	99.52%
Standard Deviation		0.3%	0.6%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**12.43**	**12.56**	12.53
Normalized	98.96%	100%	99.76%
Standard Deviation		0.4%	0.2%
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	14.22	**14.17**	**14.25**
Normalized	99.79%	99.44%	100%
Standard Deviation		0.3%	0.5%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**3.07**	**3.03**	**3.03**
Normalized	100%	98.7%	98.7%
Standard Deviation		0%	0.7%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	4.62	4.62	4.62
Standard Deviation		0.2%	0.2%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	**29.97**	29.41	**29.31**
Normalized	100%	98.13%	97.8%
Standard Deviation		2.4%	2.3%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**40.01**	39.65	**39.47**
Normalized	100%	99.1%	98.65%
Standard Deviation		1.4%	1.3%
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	**44.37**	**44.24**	44.28
Normalized	100%	99.71%	99.8%
Standard Deviation		1%	1.6%
rav1e - 5 (FPS)	0.614	**0.615**	**0.612**
Normalized	99.84%	100%	99.51%
Standard Deviation		0.6%	0.4%
rav1e - 6 (FPS)	**0.845**	**0.838**	**0.838**
Normalized	100%	99.17%	99.17%
Standard Deviation		0.9%	0.9%
rav1e - 10 (FPS)	**2.64**	2.617	**2.610**
Normalized	100%	99.13%	98.86%
Standard Deviation		1.1%	0.9%

5600u 2021

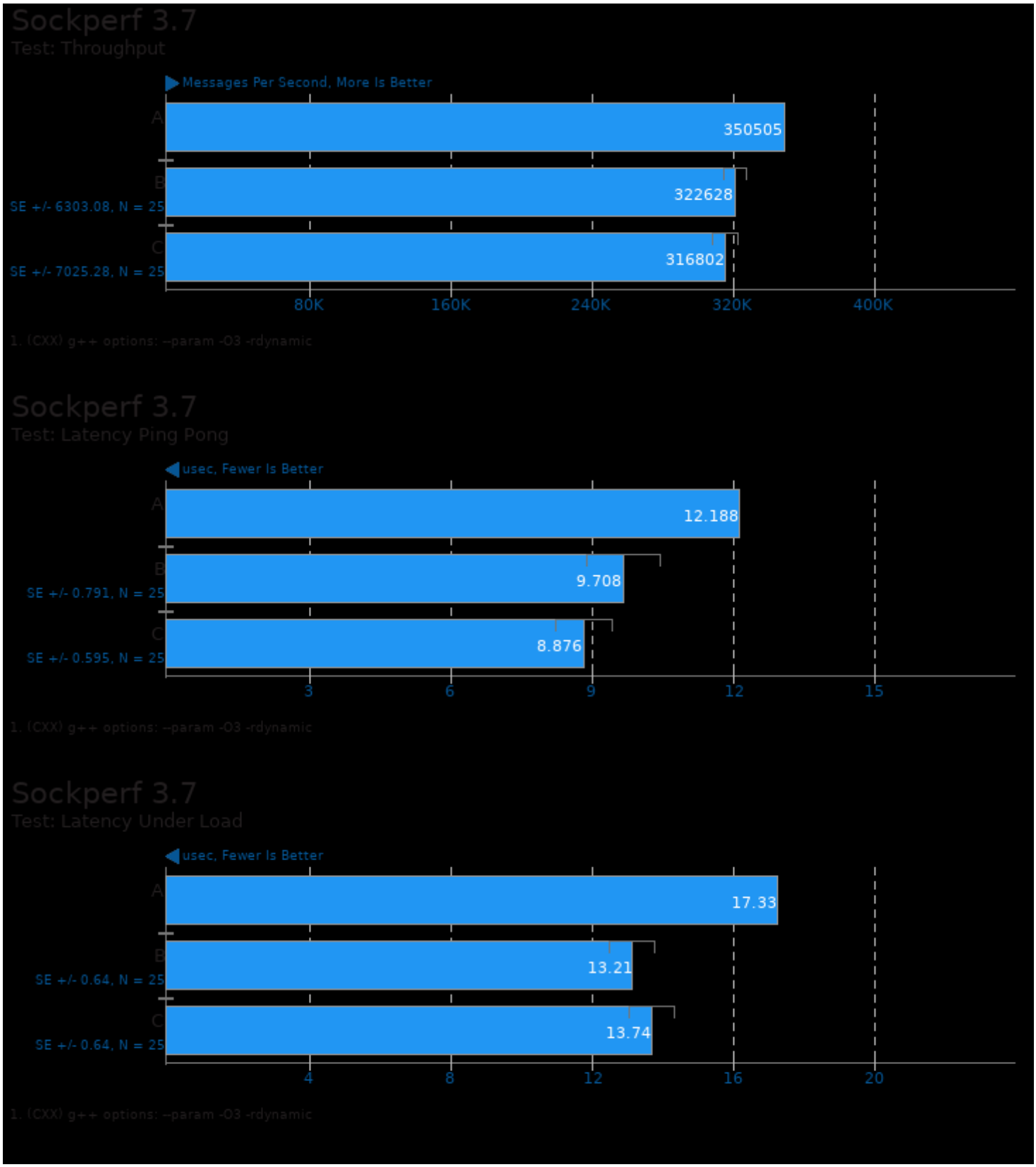
OpenSSL - SHA256 (byte/s)	**468102670**	467779183	**467121283**
Normalized	100%	99.93%	99.79%
Standard Deviation		0.1%	0.1%
OpenSSL - RSA4096 (sign/s)	**439.2**	431.2	**431.1**
Normalized	100%	98.18%	98.16%
Standard Deviation		1.7%	1.6%
OpenSSL - RSA4096 (verify/s)	**27518**	**27588**	27582
Normalized	99.75%	100%	99.98%
Standard Deviation		0.5%	0.3%
OpenSSL (sign/s)	**442.5**	446.8	**448.7**
Normalized	98.62%	99.58%	100%
Standard Deviation		2%	1.2%
OpenSSL (verify/s)	**29311**	**28509**	28570
Normalized	100%	97.27%	97.47%
Standard Deviation		2.8%	3.1%
ASTC Encoder - Medium (sec)	**6.3797**	**6.3961**	6.3901
Normalized	100%	99.74%	99.84%
Standard Deviation		0.3%	0.3%
ASTC Encoder - Thorough (sec)	**44.3417**	**45.3242**	45.2928
Normalized	100%	97.83%	97.9%
Standard Deviation		1.6%	1.6%
ASTC Encoder - Exhaustive (sec)	**425.1406**	**426.1385**	425.9412
Normalized	100%	99.77%	99.81%
Standard Deviation		0.2%	0.2%
GIMP - resize (sec)	**17.995**	17.702	**17.677**
Normalized	98.23%	99.86%	100%
Standard Deviation		1.4%	1.1%
GIMP - rotate (sec)	**16.806**	16.767	**16.737**
Normalized	99.59%	99.82%	100%
Standard Deviation		0.2%	0.4%
GIMP - auto-levels (sec)	**19.237**	19.174	**19.157**
Normalized	99.58%	99.91%	100%
Standard Deviation		0.1%	0.1%
GIMP - unsharp-mask (sec)	**22.17**	22.135	**22.110**
Normalized	99.73%	99.89%	100%
Standard Deviation		0.2%	0.1%
ONNX Runtime - yolov4 - CPU	**93**	**91**	**91**
Normalized	100%	97.85%	97.85%
Standard Deviation		1.8%	3%
ONNX Runtime - fcn-resnet101-11 - CPU (Inferences/min)	**15**	**16**	**16**
Normalized	93.75%	100%	100%
Standard Deviation		0%	0%
ONNX Runtime - shufflenet-v2-10 - CPU (Inferences/min)	11456	**11515**	**11410**
Normalized	99.49%	100%	99.09%
Standard Deviation		1%	1.6%
ONNX Runtime - super-resolution-10 - CPU (Inferences/min)	**910**	**861**	897
Normalized	100%	94.62%	98.57%
Standard Deviation		8.9%	1.4%
RAR Compression - L.S.T.A.T.R (sec)	**90.957**	92.672	**92.731**
Normalized	100%	98.15%	98.09%
Standard Deviation		2.2%	1.5%

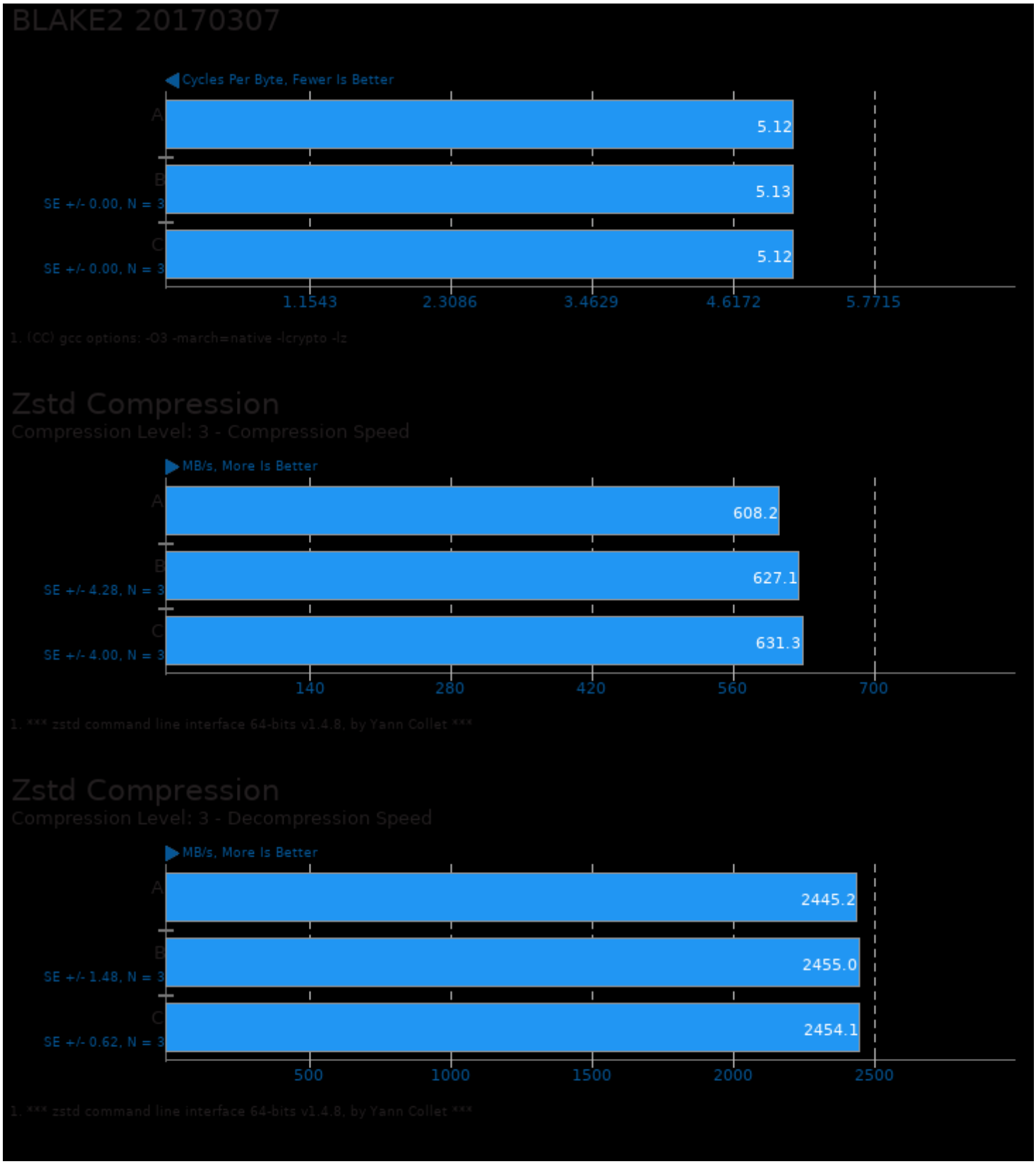
PyHPC Benchmarks - CPU - JAX - 16384 - Equation of State (sec)	0.001	0.001	0.001
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - JAX - 16384 - Isoneutral Mixing (sec)	0.005	0.005	0.005
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - JAX - 65536 - Equation of State (sec)	0.002	0.002	0.002
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - JAX - 65536 - Isoneutral Mixing (sec)	**0.026**	**0.025**	**0.025**
Normalized	96.15%	100%	100%
Standard Deviation		3.4%	2.3%
PyHPC Benchmarks - CPU - JAX - 262144 - Equation of State (sec)	0.007	0.007	0.007
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - JAX - 262144 - Isoneutral Mixing (sec)	**0.083**	**0.082**	**0.082**
Normalized	98.8%	100%	100%
Standard Deviation		1.2%	0.7%
PyHPC Benchmarks - CPU - JAX - 1048576 - Equation of State (sec)	**0.035**	**0.034**	**0.034**
Normalized	97.14%	100%	100%
Standard Deviation		2.4%	3.7%
PyHPC Benchmarks - CPU - JAX - 1048576 - Isoneutral Mixing (sec)	0.345	**0.346**	**0.342**
Normalized	99.13%	98.84%	100%
Standard Deviation		0.3%	0.3%
PyHPC Benchmarks - CPU - JAX - 4194304 - Equation of State (sec)	**0.135**	**0.140**	**0.135**
Normalized	100%	96.43%	100%
Standard Deviation		2.5%	2.4%
PyHPC Benchmarks - CPU - JAX - 4194304 - Isoneutral Mixing (sec)	1.578	**1.585**	**1.574**
Normalized	99.75%	99.31%	100%
Standard Deviation		0.1%	0.3%
PyHPC Benchmarks - CPU - Numba - 16384 - Equation of State (sec)	0.002	0.002	0.002
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Numba - 16384 - Isoneutral Mixing (sec)	0.006	0.006	0.006
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Numba - 65536 - Equation of State (sec)	0.006	0.006	0.006
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Numba - 65536 - Isoneutral Mixing (sec)	0.025	0.025	0.025
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Numpy - 16384 - Equation of State (sec)	0.007	0.007	0.007
Standard Deviation		0%	0%

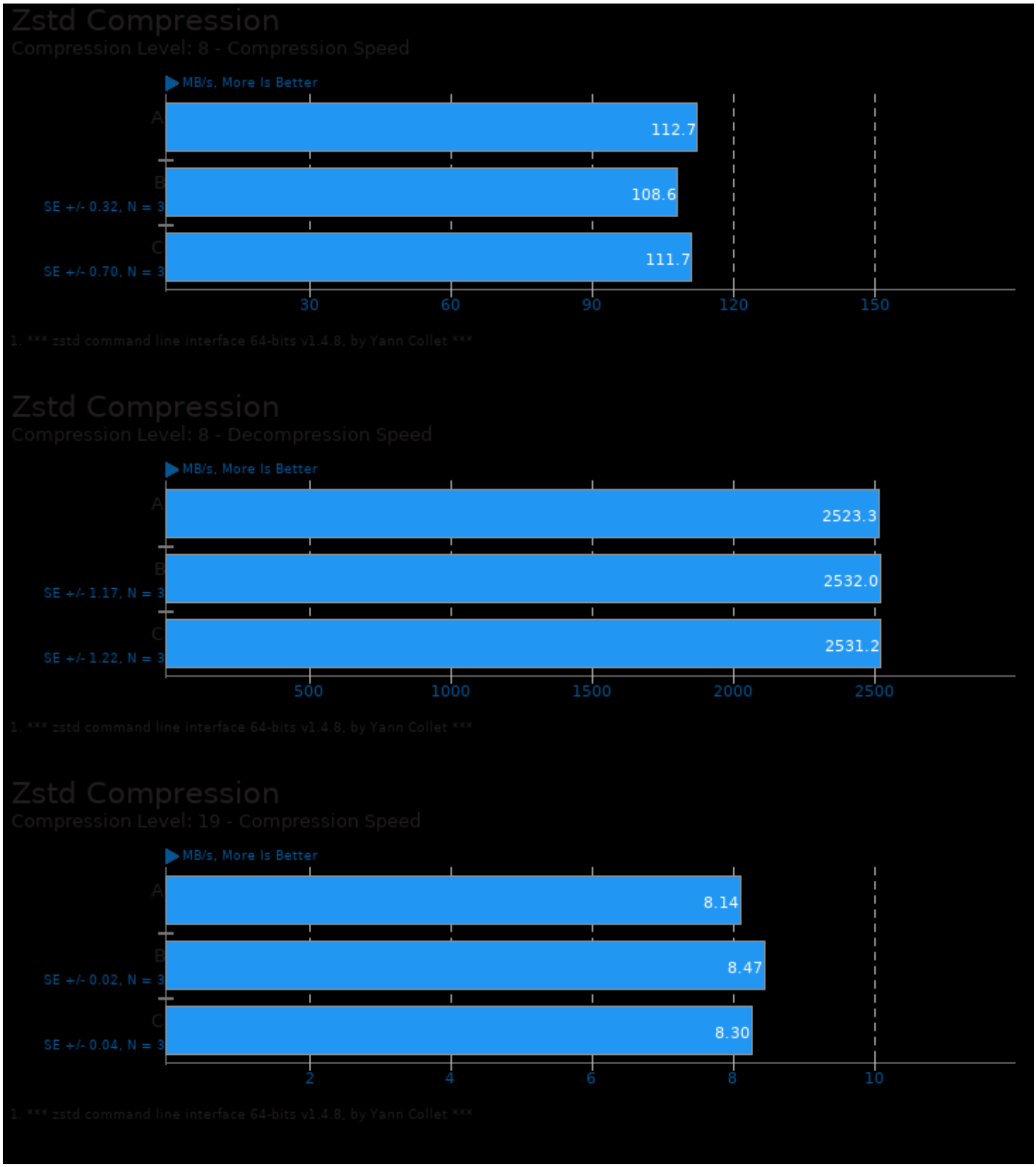
PyHPC Benchmarks - CPU - Numpy - 16384 - Isoneutral Mixing (sec)	0.014	0.014	0.014
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Numpy - 65536 - Equation of State (sec)	0.029	0.030	0.029
Normalized	100%	96.67%	100%
Standard Deviation		1.9%	0%
PyHPC Benchmarks - CPU - Numpy - 65536 - Isoneutral Mixing (sec)	0.058	0.058	0.057
Normalized	98.28%	98.28%	100%
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Aesara - 16384 - Equation of State (sec)	0.002	0.002	0.002
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Aesara - 16384 - Isoneutral Mixing (sec)	0.008	0.008	0.008
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Aesara - 65536 - Equation of State (sec)	0.008	0.008	0.008
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Aesara - 65536 - Isoneutral Mixing (sec)	0.034	0.034	0.033
Normalized	97.06%	97.06%	100%
Standard Deviation		1.7%	0%
PyHPC Benchmarks - CPU - Numba - 262144 - Equation of State (sec)	0.022	0.022	0.022
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Numba - 262144 - Isoneutral Mixing (sec)	0.096	0.095	0.095
Normalized	98.96%	100%	100%
Standard Deviation		0%	1.1%
PyHPC Benchmarks - CPU - Numpy - 262144 - Equation of State (sec)	0.123	0.122	0.125
Normalized	99.19%	100%	97.6%
Standard Deviation		0.5%	0.9%
PyHPC Benchmarks - CPU - Numpy - 262144 - Isoneutral Mixing (sec)	0.22	0.220	0.218
Normalized	99.09%	99.09%	100%
Standard Deviation		0.3%	0.5%
PyHPC Benchmarks - CPU - Aesara - 262144 - Equation of State (sec)	0.028	0.028	0.028
Standard Deviation		0%	2.3%
PyHPC Benchmarks - CPU - Aesara - 262144 - Isoneutral Mixing (sec)	0.131	0.132	0.132
Normalized	100%	99.24%	99.24%
Standard Deviation		0.4%	0.4%
PyHPC Benchmarks - CPU - Numba - 1048576 - Equation of State (sec)	0.09	0.09	0.09
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - Numba - 1048576 - Isoneutral Mixing (sec)	0.436	0.434	0.429
Normalized	98.39%	98.85%	100%

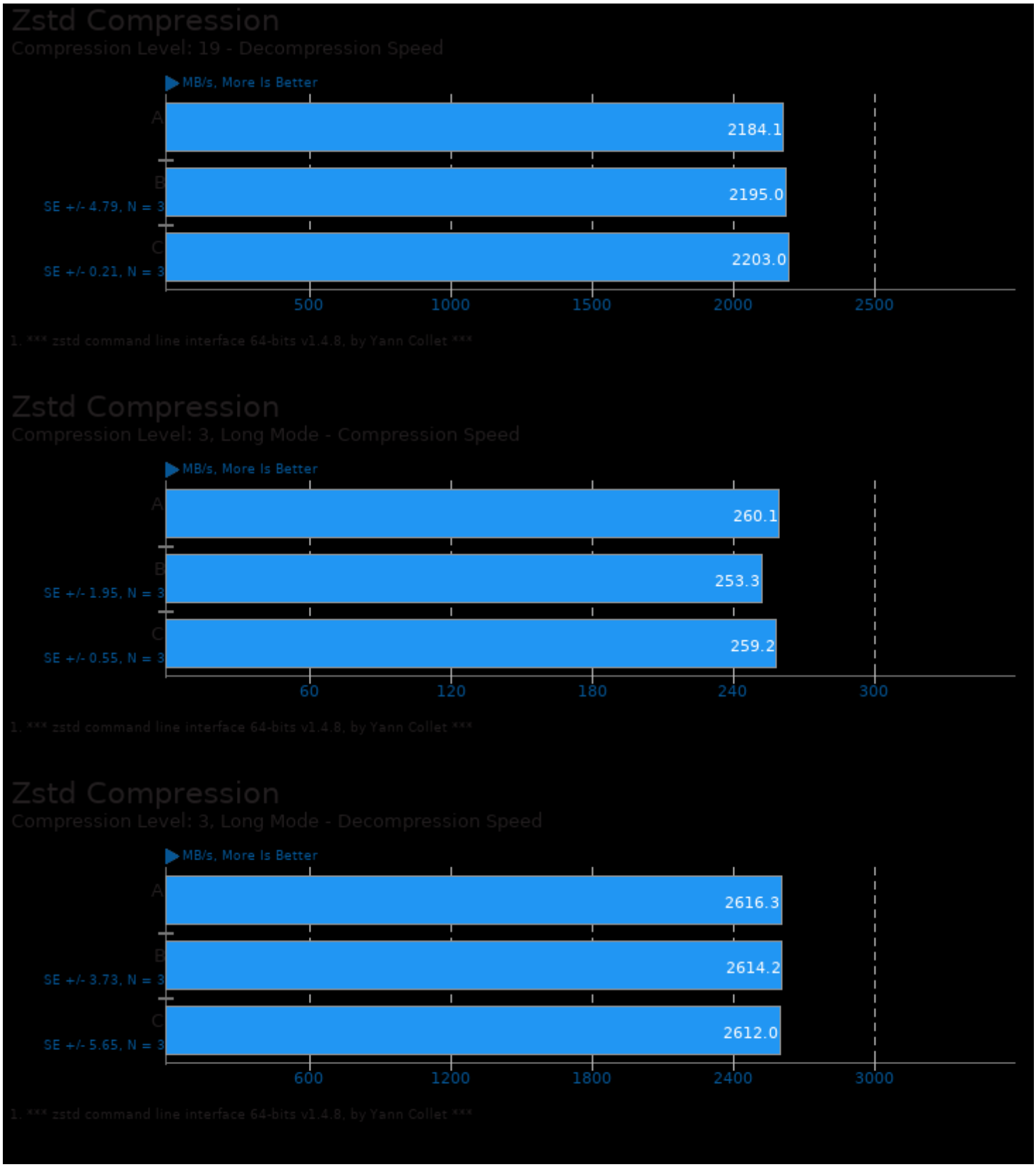
Standard Deviation		0.7%	0.3%
PyHPC Benchmarks - CPU - Numba - 4194304 - Equation of State (sec)	0.357	0.358	0.362
Normalized	100%	99.72%	98.62%
Standard Deviation		0.5%	1%
PyHPC Benchmarks - CPU - Numba - 4194304 - Isoneutral Mixing (sec)	1.824	1.845	1.822
Normalized	99.89%	98.75%	100%
Standard Deviation		0.5%	0.2%
PyHPC Benchmarks - CPU - Numpy - 1048576 - Equation of State (sec)	0.515	0.516	0.518
Normalized	100%	99.81%	99.42%
Standard Deviation		0.7%	0.4%
PyHPC Benchmarks - CPU - Numpy - 1048576 - Isoneutral Mixing (sec)	0.947	0.955	0.947
Normalized	100%	99.16%	100%
Standard Deviation		1%	0.3%
PyHPC Benchmarks - CPU - Numpy - 4194304 - Equation of State (sec)	2.441	2.453	2.437
Normalized	99.84%	99.35%	100%
Standard Deviation		0.2%	0.1%
PyHPC Benchmarks - CPU - Numpy - 4194304 - Isoneutral Mixing (sec)	3.849	3.850	3.837
Normalized	99.69%	99.66%	100%
Standard Deviation		0.3%	0.1%
PyHPC Benchmarks - CPU - PyTorch - 16384 - Equation of State (sec)	0.001	0.001	0.001
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - PyTorch - 16384 - Isoneutral Mixing (sec)	0.009	0.009	0.009
Standard Deviation		0%	6.1%
PyHPC Benchmarks - CPU - PyTorch - 65536 - Equation of State (sec)	0.003	0.003	0.003
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - PyTorch - 65536 - Isoneutral Mixing (sec)	0.033	0.033	0.033
Standard Deviation		1.7%	1.7%
PyHPC Benchmarks - CPU - Aesara - 1048576 - Equation of State (sec)	0.114	0.117	0.116
Normalized	100%	97.44%	98.28%
Standard Deviation		2.4%	1.5%
PyHPC Benchmarks - CPU - Aesara - 1048576 - Isoneutral Mixing (sec)	0.582	0.574	0.573
Normalized	98.45%	99.83%	100%
Standard Deviation		0.3%	0.3%
PyHPC Benchmarks - CPU - Aesara - 4194304 - Equation of State (sec)	0.449	0.452	0.457
Normalized	100%	99.34%	98.25%
Standard Deviation		0.6%	2.4%
PyHPC Benchmarks - CPU - Aesara - 4194304 - Isoneutral Mixing (sec)	2.48	2.483	2.490
Normalized	100%	99.88%	99.6%
Standard Deviation		0.7%	0.5%

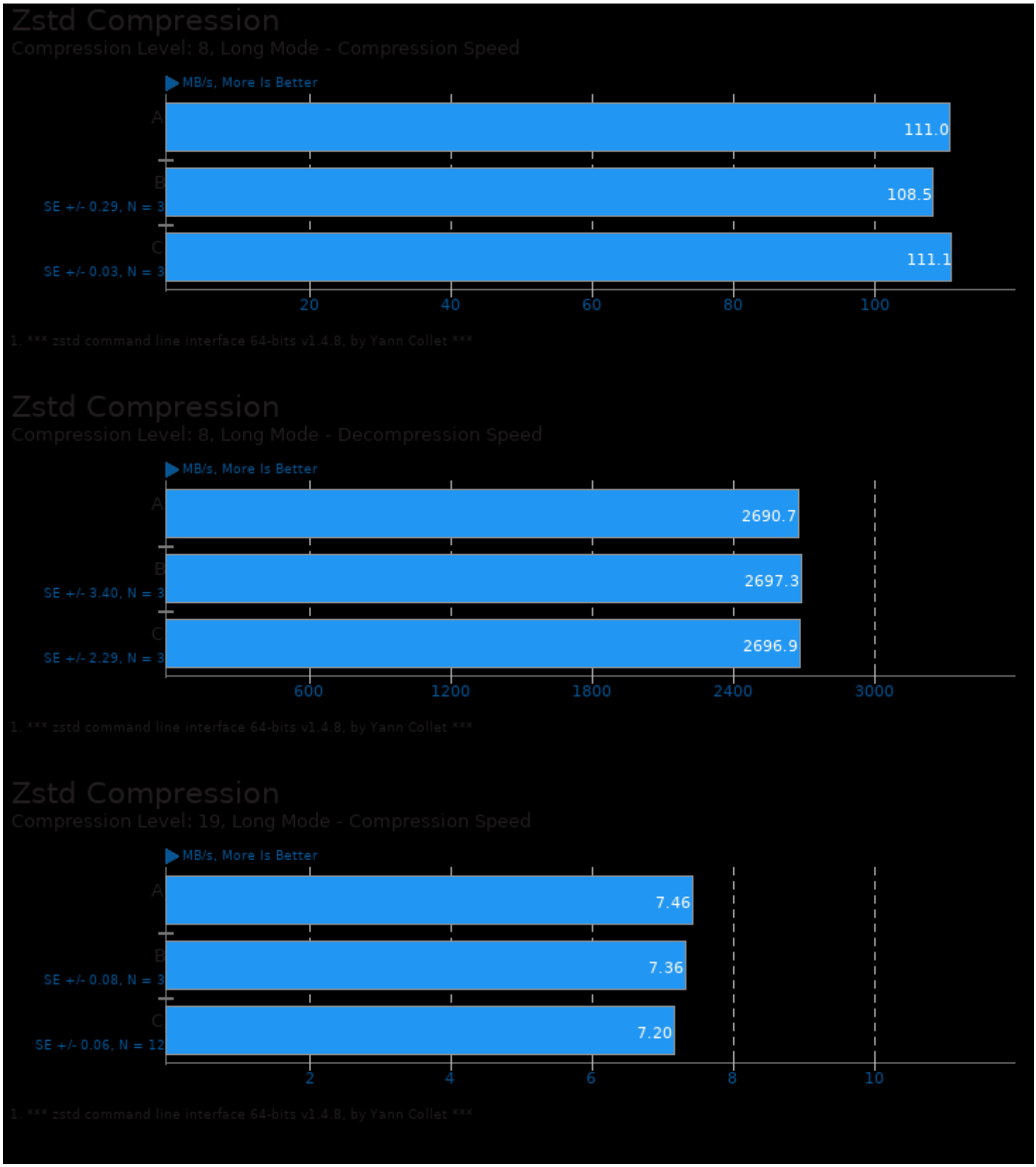
PyHPC Benchmarks - CPU - PyTorch - 262144 - Equation of State (sec)	0.01	0.010	0.010
Standard Deviation		7.1%	6.1%
PyHPC Benchmarks - CPU - PyTorch - 262144 - Isoneutral Mixing (sec)	**0.135**	**0.134**	**0.134**
Normalized	99.26%	100%	100%
Standard Deviation		0.4%	0.4%
PyHPC Benchmarks - CPU - PyTorch - 1048576 - Equation of State (sec)	**0.05**	0.045	**0.044**
Normalized	88%	97.78%	100%
Standard Deviation		10.3%	9.5%
PyHPC Benchmarks - CPU - PyTorch - 1048576 - Isoneutral Mixing (sec)	**0.616**	**0.618**	**0.616**
Normalized	100%	99.68%	100%
Standard Deviation		0.5%	0.9%
PyHPC Benchmarks - CPU - PyTorch - 4194304 - Equation of State (sec)	**0.189**	**0.182**	0.185
Normalized	96.3%	100%	98.38%
Standard Deviation		5.2%	7.9%
PyHPC Benchmarks - CPU - PyTorch - 4194304 - Isoneutral Mixing (sec)	**2.565**	2.604	**2.605**
Normalized	100%	98.5%	98.46%
Standard Deviation		2.9%	3%
PyHPC Benchmarks - CPU - TensorFlow - 16384 - Equation of State (sec)	0.004	0.004	0.004
Standard Deviation		0%	0%
PyHPC Benchmarks - CPU - TensorFlow - 65536 - Equation of State (sec)	**0.004**	**0.006**	**0.006**
Normalized	100%	66.67%	66.67%
Standard Deviation		34%	25.5%
PyHPC Benchmarks - CPU - TensorFlow - 262144 - Equation of State (sec)	0.013	0.013	0.013
Standard Deviation		3.8%	3.8%
PyHPC Benchmarks - CPU - TensorFlow - 1048576 - Equation of State (sec)	**0.054**	**0.056**	**0.054**
Normalized	100%	96.43%	100%
Standard Deviation		1%	1.1%
PyHPC Benchmarks - CPU - TensorFlow - 4194304 - Equation of State (sec)	**0.247**	**0.249**	**0.247**
Normalized	100%	99.2%	100%
Standard Deviation		0.4%	0.2%

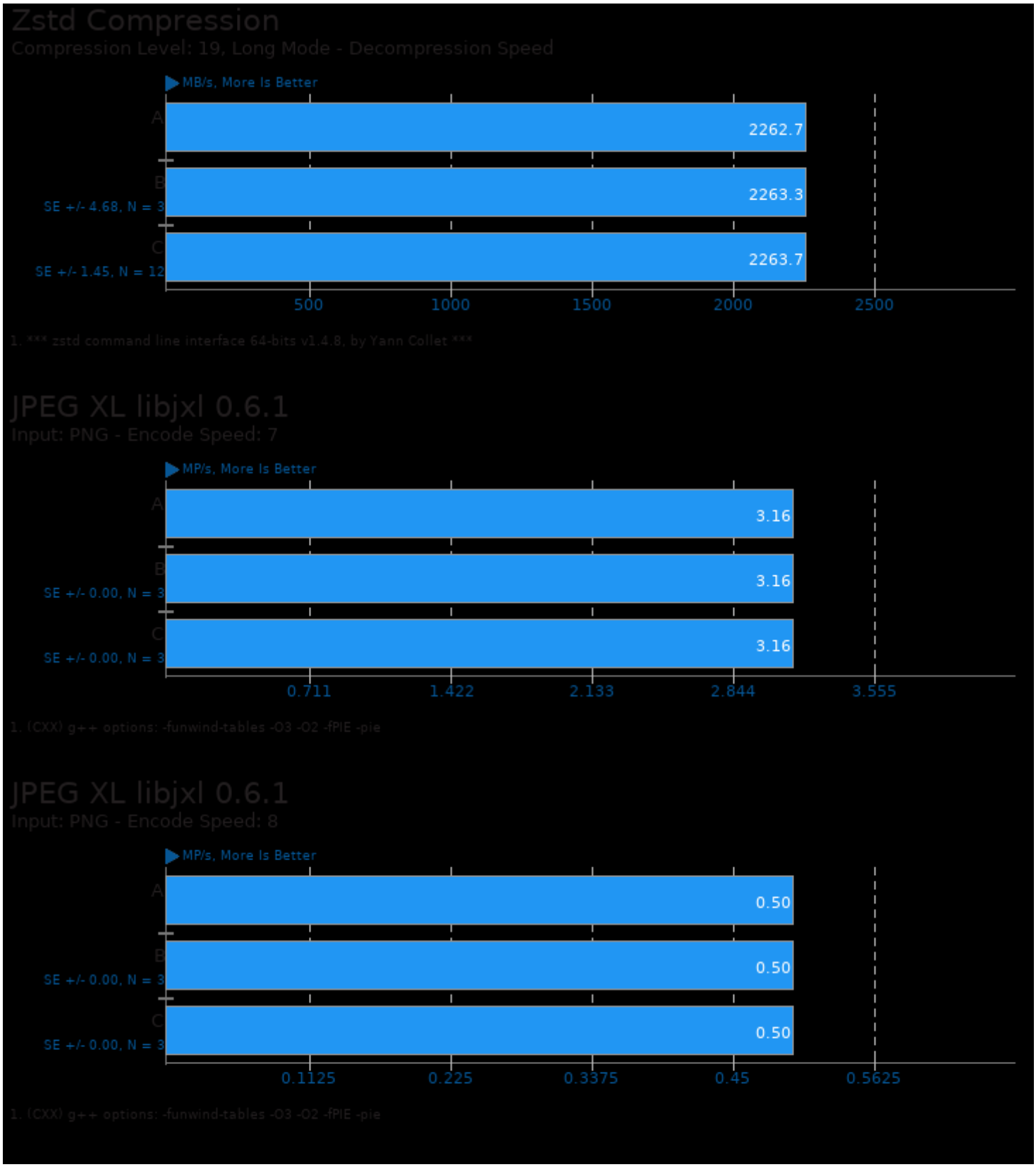

Sockperf 3.7
Test: Throughput
Messages Per Second, More Is Better
A
350505
B
322628
SE +/- 6303.08, N = 25
C
316802
SE +/- 7025.28, N = 25
80K
160K
240K
320K
400K
1. (CXX) g++ options: -param -O3 -rdynamic
Sockperf 3.7
Test: Latency Ping Pong
usec, Fewer Is Better
A
12.188
B
9.708
SE +/- 0.791, N = 25
C
8.876
SE +/- 0.595, N = 25
3
6
9
12
15
1. (CXX) g++ options: -param -O3 -rdynamic
Sockperf 3.7
Test: Latency Under Load
usec, Fewer Is Better
A
17.33
B
13.21
SE +/- 0.64, N = 25
C
13.74
SE +/- 0.64, N = 25
4
8
12
16
20
1. (CXX) g++ options: -param -O3 -rdynamic

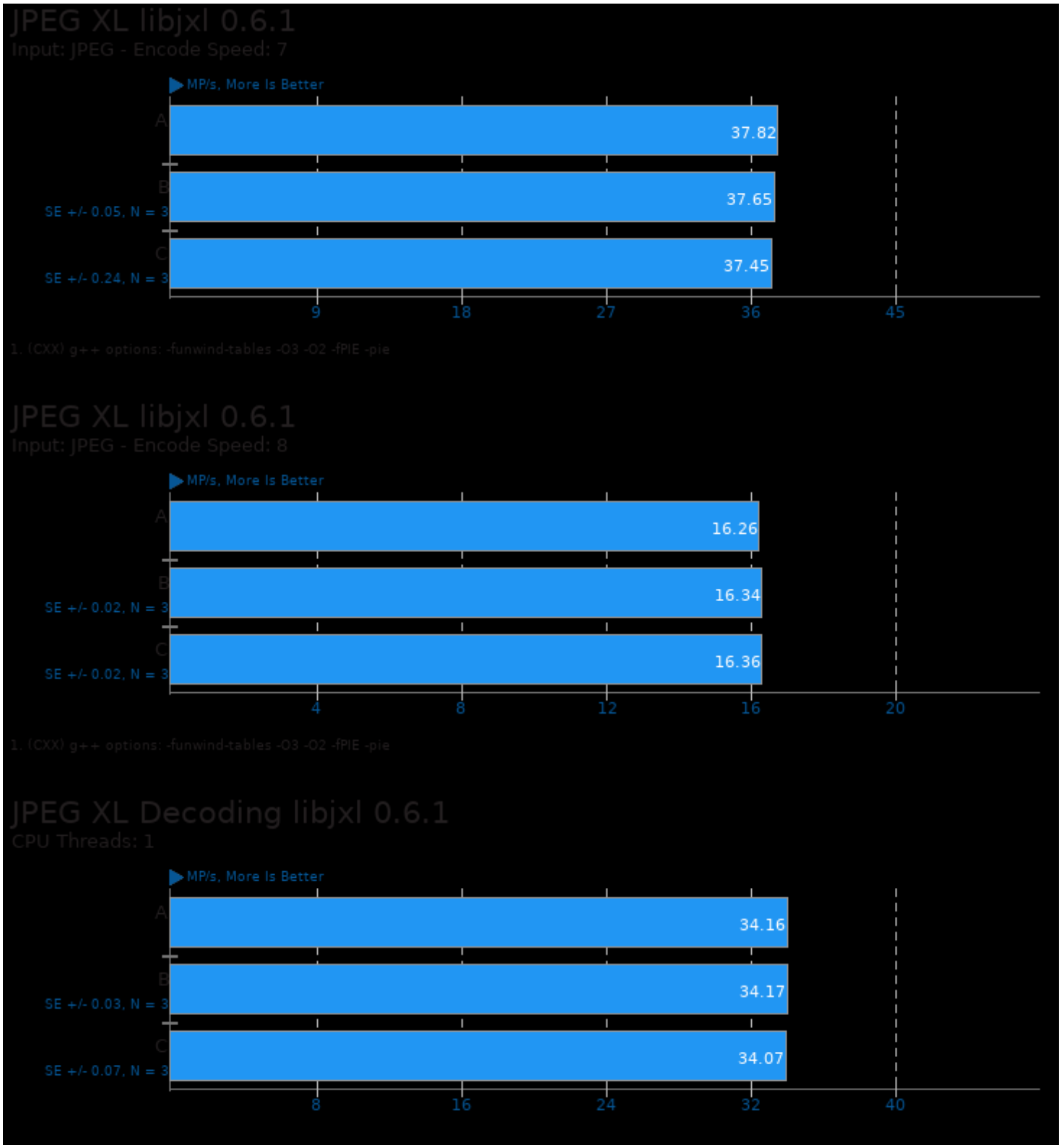

BLAKE2 20170307
Cycles Per Byte, Fewer Is Better
A
5.12
B
5.13
SE +/- 0.00, N = 3
C
5.12
SE +/- 0.00, N = 3
1.1543
2.3086
3.4629
4.6172
5.7715
1. (CC) gcc options: -O3 -march=native -lcrypto -lz
Zstd Compression
Compression Level: 3 - Compression Speed
MB/s, More Is Better
A
608.2
B
627.1
SE +/- 4.28, N = 3
C
631.3
SE +/- 4.00, N = 3
140
280
420
560
700
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
A
2445.2
B
2455.0
SE +/- 1.48, N = 3
C
2454.1
SE +/- 0.62, N = 3
500
1000
1500
2000
2500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

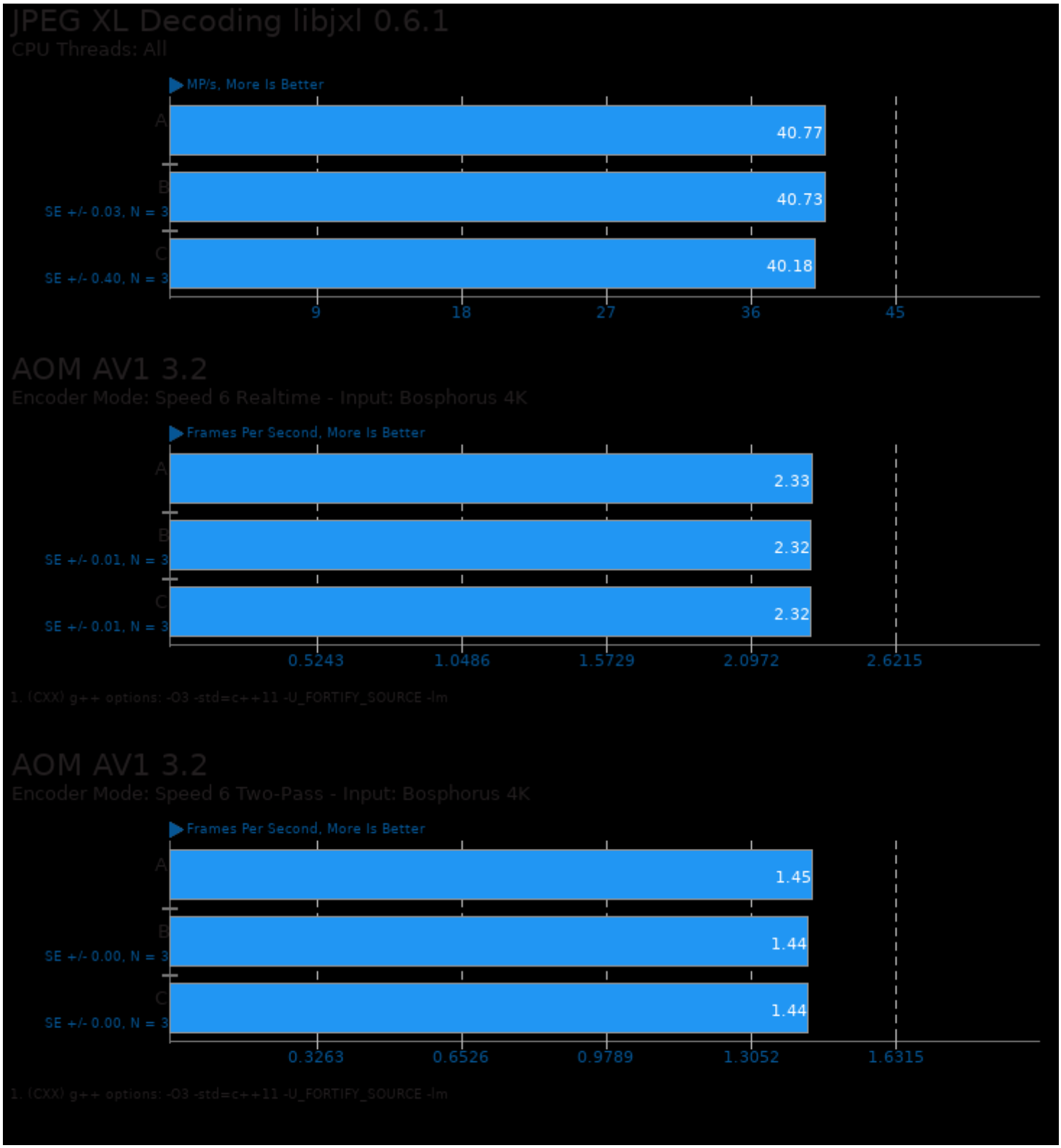

Zstd Compression
Compression Level: 8 - Compression Speed
MB/s, More Is Better
A
112.7
B
108.6
SE +/- 0.32, N = 3
C
111.7
SE +/- 0.70, N = 3
30
60
90
120
150
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
A
2523.3
B
2532.0
SE +/- 1.17, N = 3
C
2531.2
SE +/- 1.22, N = 3
500
1000
1500
2000
2500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19 - Compression Speed
MB/s, More Is Better
A
8.14
B
8.47
SE +/- 0.02, N = 3
C
8.30
SE +/- 0.04, N = 3
2
4
6
8
10
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

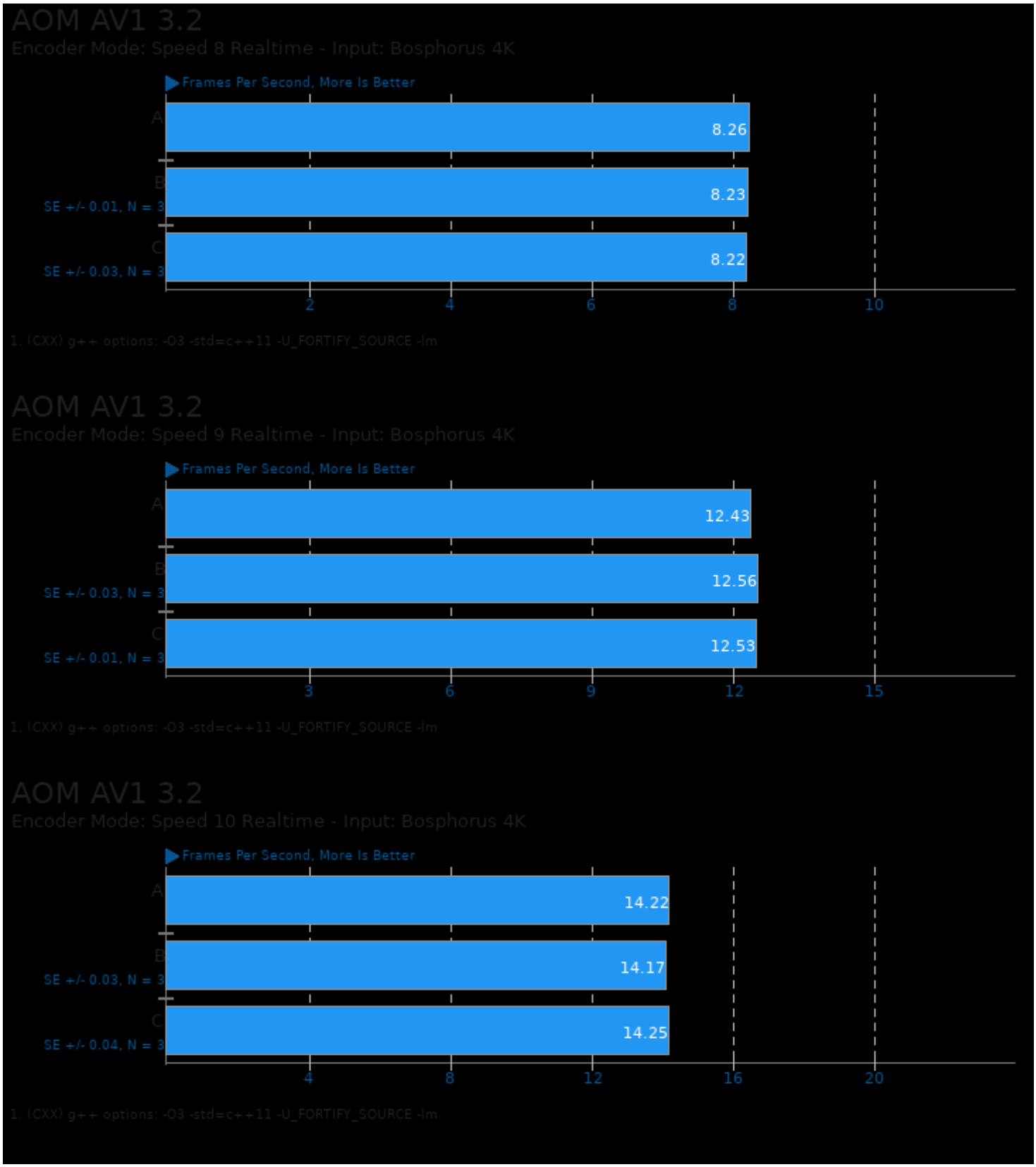

Zstd Compression
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
A
2184.1
B
2195.0
SE +/- 4.79, N = 3
C
2203.0
SE +/- 0.21, N = 3
500
1000
1500
2000
2500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
A
260.1
B
253.3
SE +/- 1.95, N = 3
C
259.2
SE +/- 0.55, N = 3
60
120
180
240
300
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
A
2616.3
B
2614.2
SE +/- 3.73, N = 3
C
2612.0
SE +/- 5.65, N = 3
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

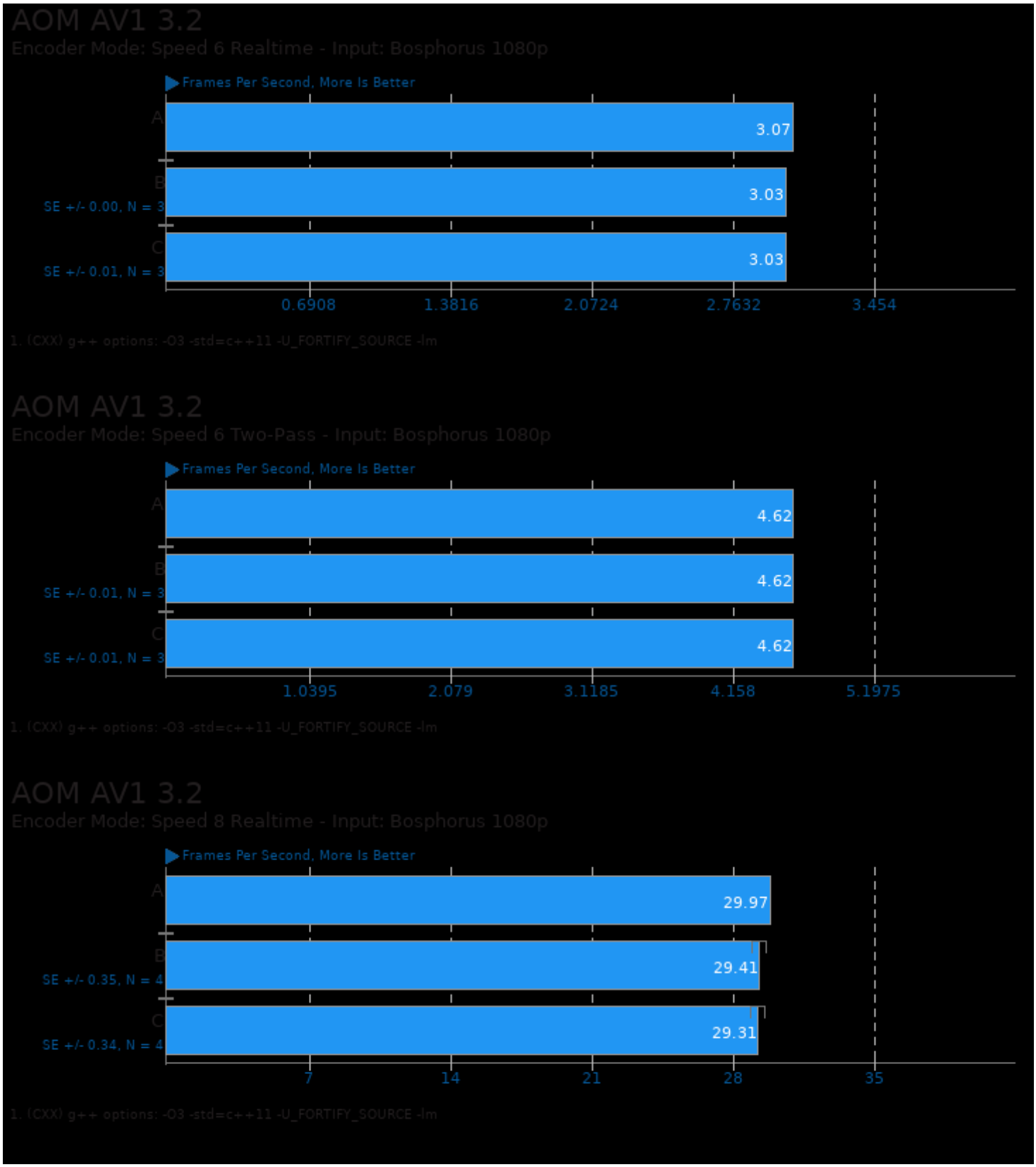

Zstd Compression
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
A
111.0
B
108.5
SE +/- 0.29, N = 3
C
111.1
SE +/- 0.03, N = 3
20
40
60
80
100
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
A
2690.7
B
2697.3
SE +/- 3.40, N = 3
C
2696.9
SE +/- 2.29, N = 3
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
A
7.46
B
7.36
SE +/- 0.08, N = 3
C
7.20
SE +/- 0.06, N = 12
2
4
6
8
10
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

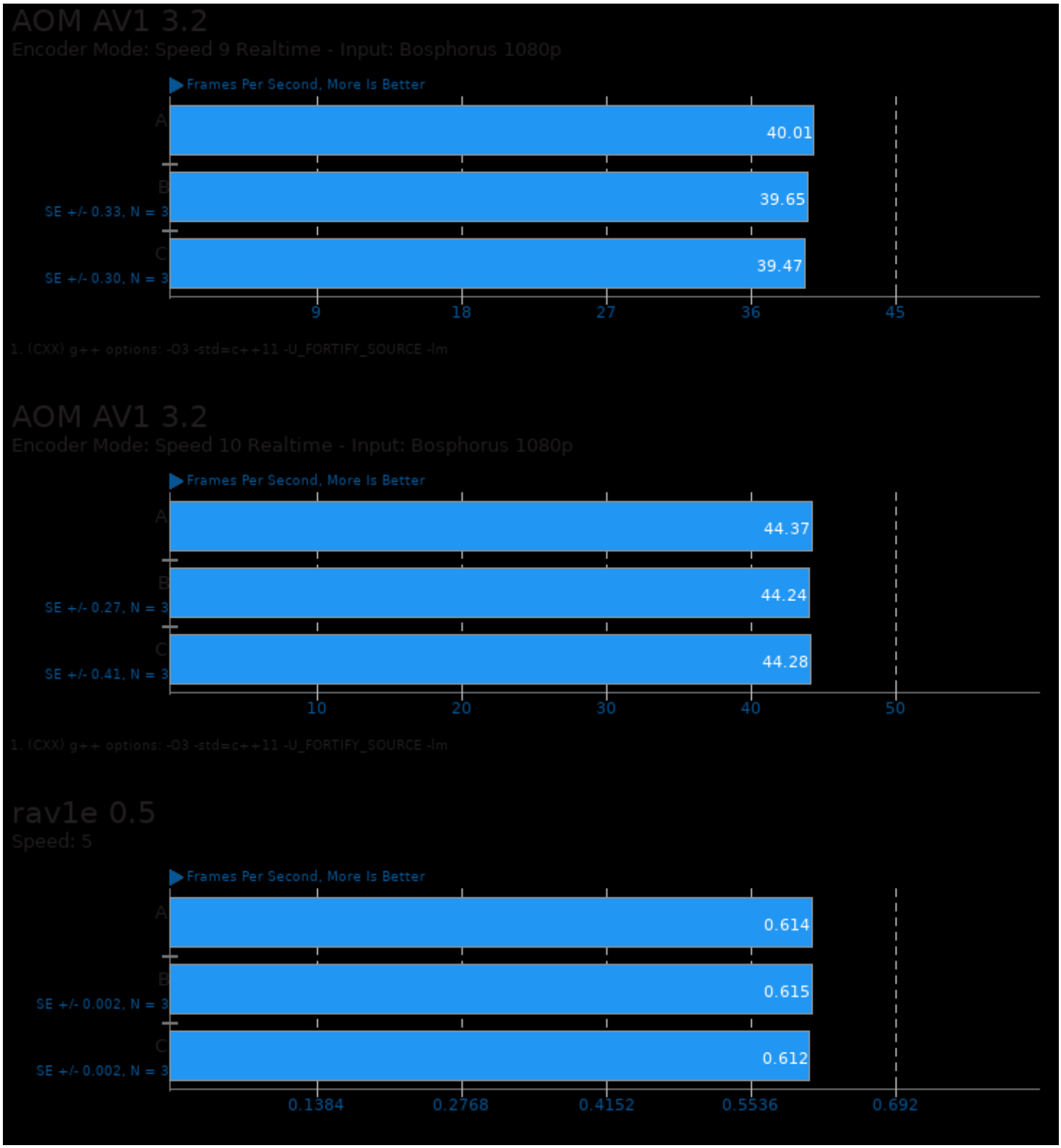

Zstd Compression
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
A
2262.7
B
2263.3
SE +/- 4.68, N = 3
C
2263.7
SE +/- 1.45, N = 12
500
1000
1500
2000
2500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 7
MP/s, More Is Better
A
3.16
B
3.16
SE +/- 0.00, N = 3
C
3.16
SE +/- 0.00, N = 3
0.711
1.422
2.133
2.844
3.555
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie
JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 8
MP/s, More Is Better
A
0.50
B
0.50
SE +/- 0.00, N = 3
C
0.50
SE +/- 0.00, N = 3
0.1125
0.225
0.3375
0.45
0.5625
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie

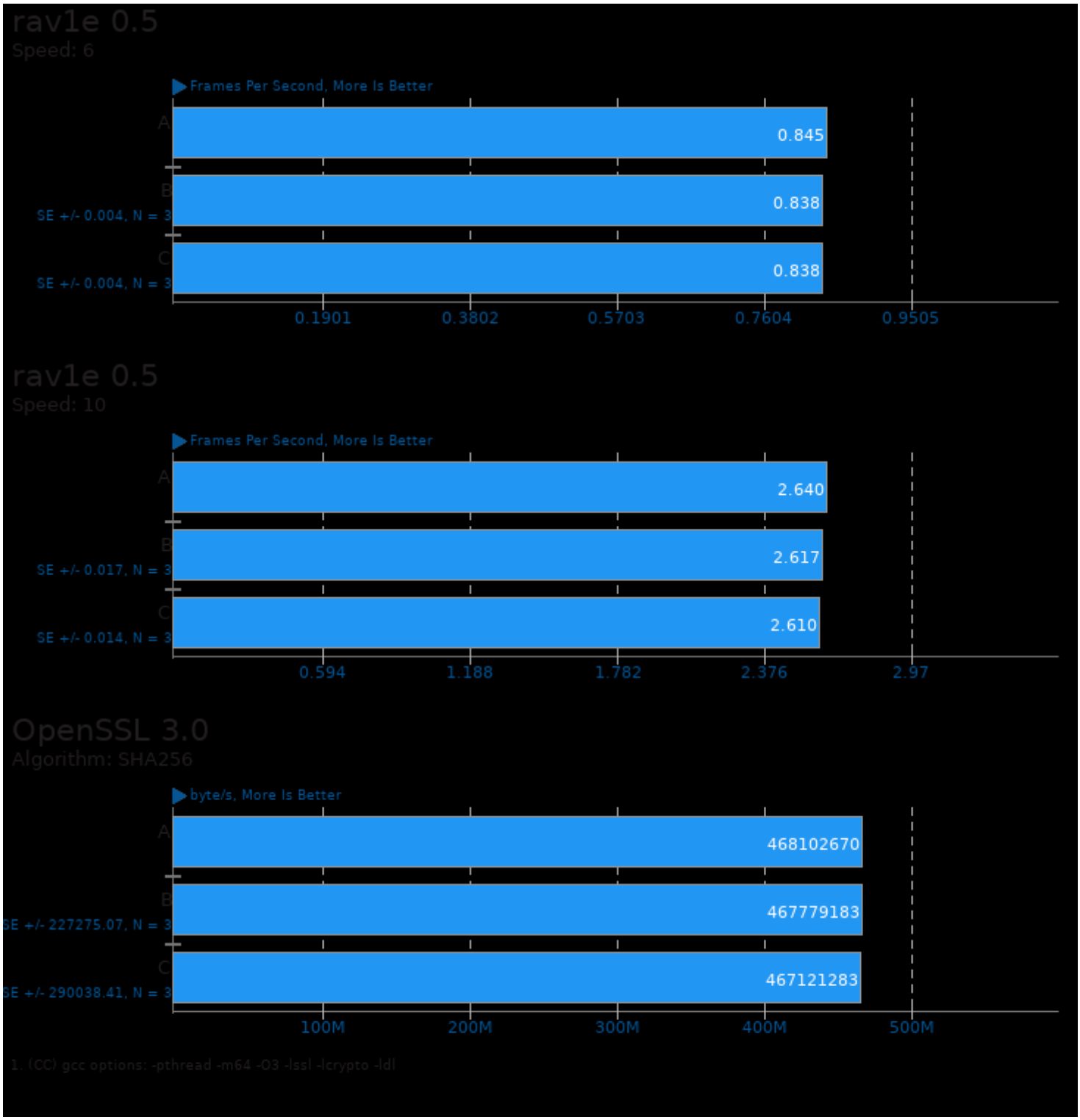

JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
A
37.82
B
37.65
SE +/- 0.05, N = 3
C
37.45
SE +/- 0.24, N = 3
9
18
27
36
45
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie
JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 8
MP/s, More Is Better
A
16.26
B
16.34
SE +/- 0.02, N = 3
C
16.36
SE +/- 0.02, N = 3
4
8
12
16
20
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie
JPEG XL Decoding libjxl 0.6.1
CPU Threads: 1
MP/s, More Is Better
A
34.16
B
34.17
SE +/- 0.03, N = 3
C
34.07
SE +/- 0.07, N = 3
8
16
24
32
40

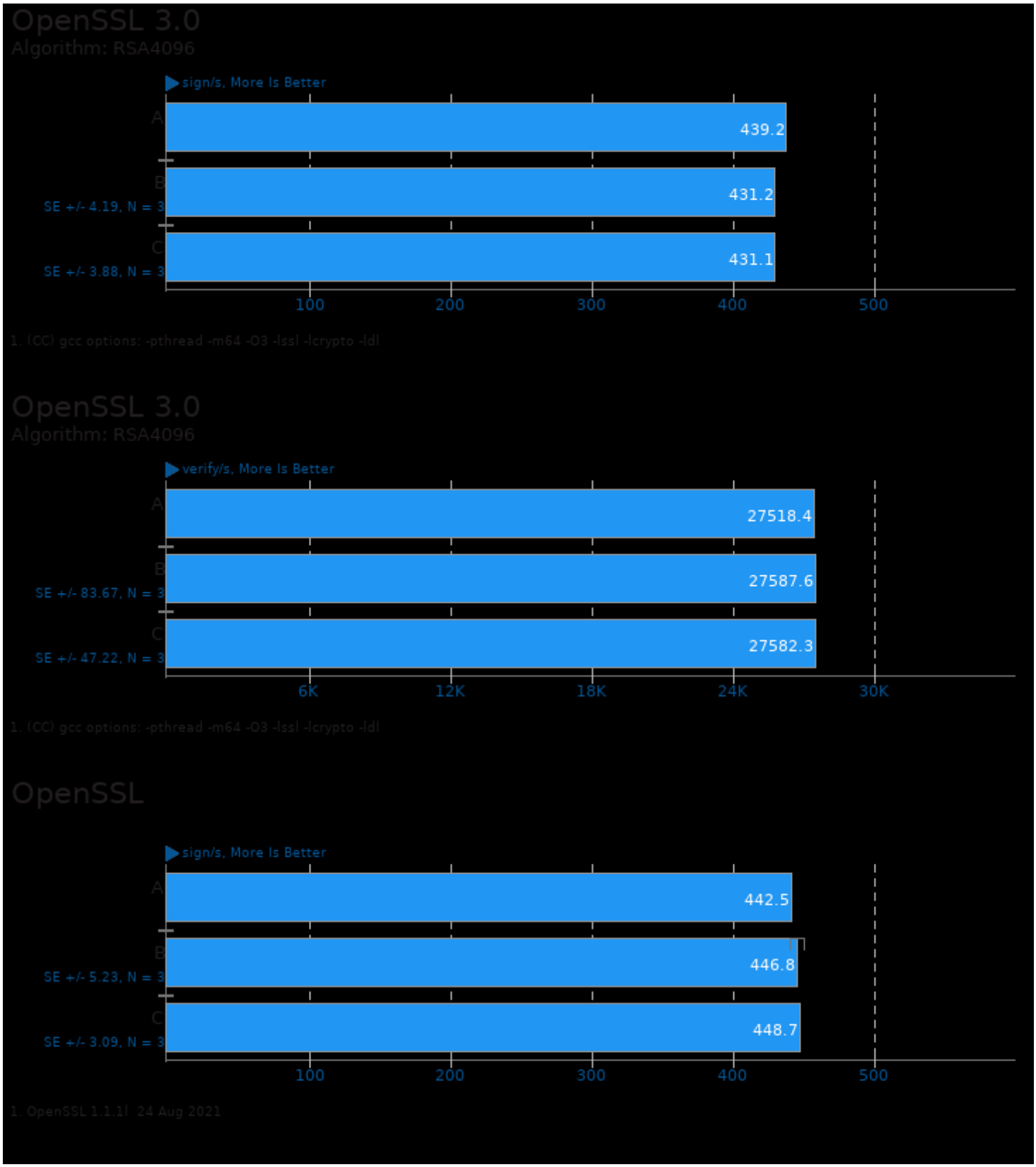

JPEG XL Decoding libjxl 0.6.1
CPU Threads: All
MP/s, More Is Better
A
B
C
40.77
40.73
40.18
SE +/- 0.03, N = 3
SE +/- 0.40, N = 3
9
18
27
36
45
AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
2.33
2.32
2.32
SE +/- 0.01, N = 3
SE +/- 0.01, N = 3
0.5243
1.0486
1.5729
2.0972
2.6215
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
1.45
1.44
1.44
SE +/- 0.00, N = 3
SE +/- 0.00, N = 3
0.3263
0.6526
0.9789
1.3052
1.6315
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm

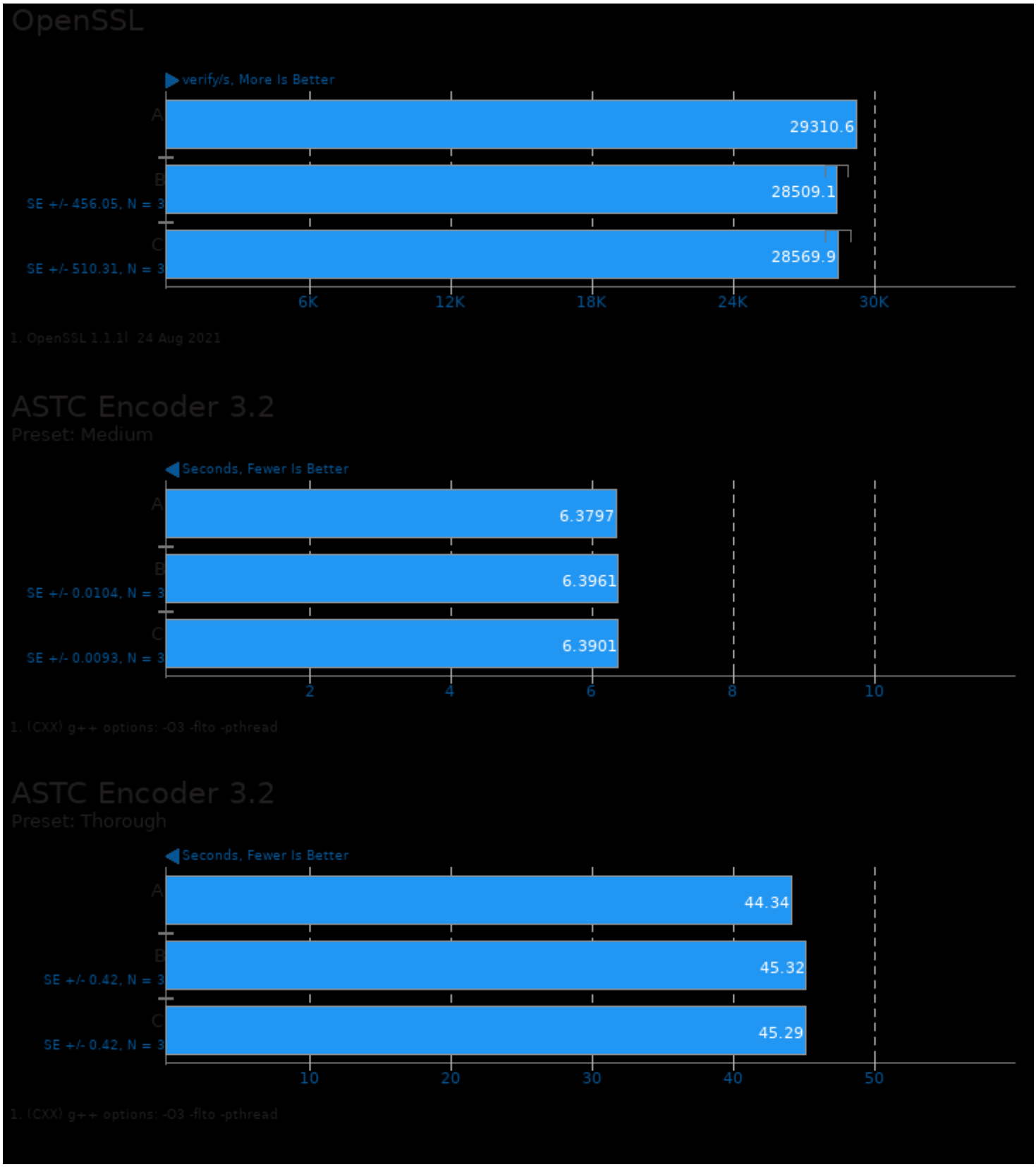

AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
8.26
B
8.23
SE +/- 0.01, N = 3
C
8.22
SE +/- 0.03, N = 3
2
4
6
8
10
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
12.43
B
12.56
SE +/- 0.03, N = 3
C
12.53
SE +/- 0.01, N = 3
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
14.22
B
14.17
SE +/- 0.03, N = 3
C
14.25
SE +/- 0.04, N = 3
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm

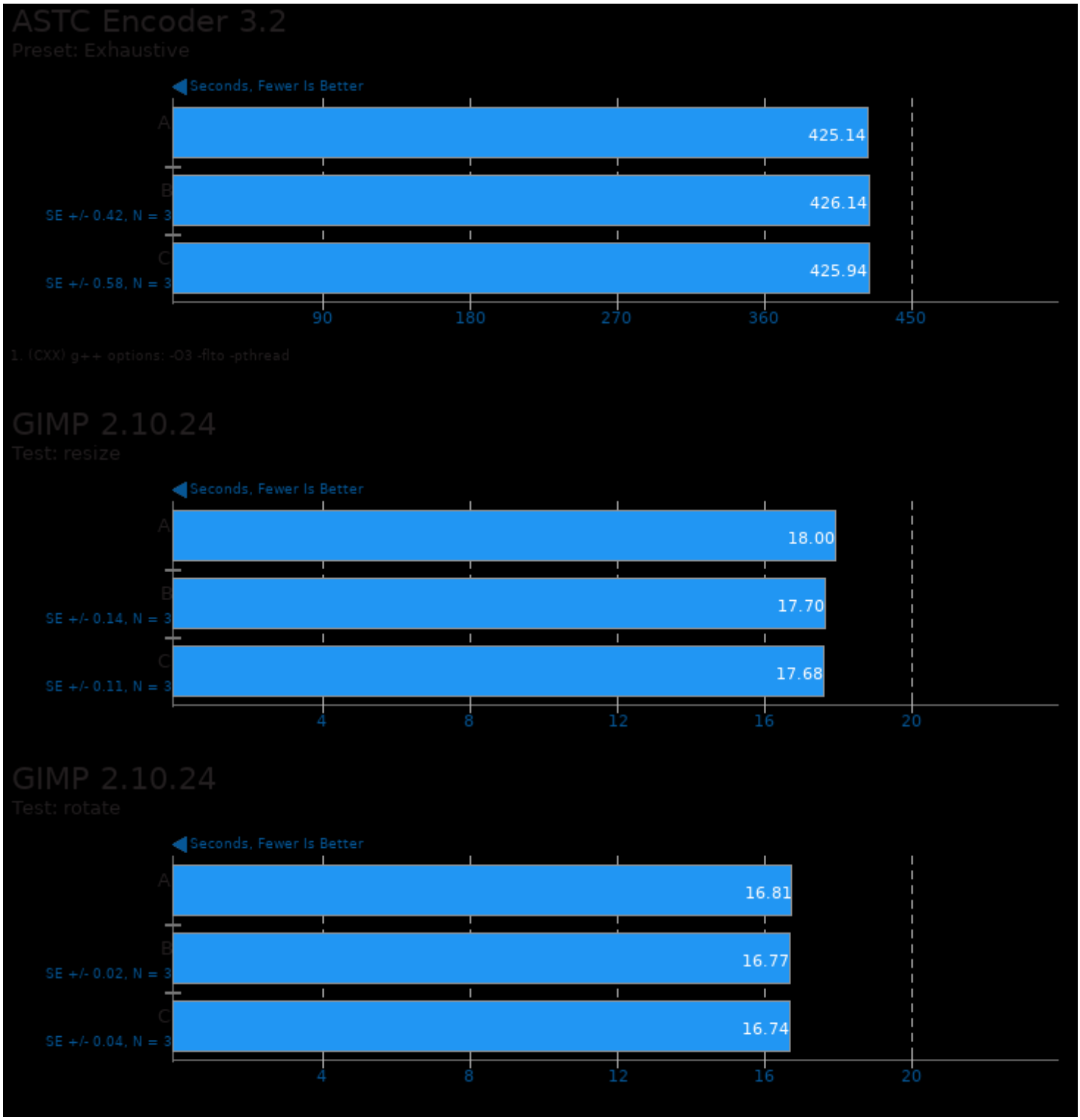

AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
3.07
B
3.03
SE +/- 0.00, N = 3
C
3.03
SE +/- 0.01, N = 3
0.6908
1.3816
2.0724
2.7632
3.454
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
4.62
B
4.62
SE +/- 0.01, N = 3
C
4.62
SE +/- 0.01, N = 3
1.0395
2.079
3.1185
4.158
5.1975
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
29.97
B
29.41
SE +/- 0.35, N = 4
C
29.31
SE +/- 0.34, N = 4
7
14
21
28
35
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm

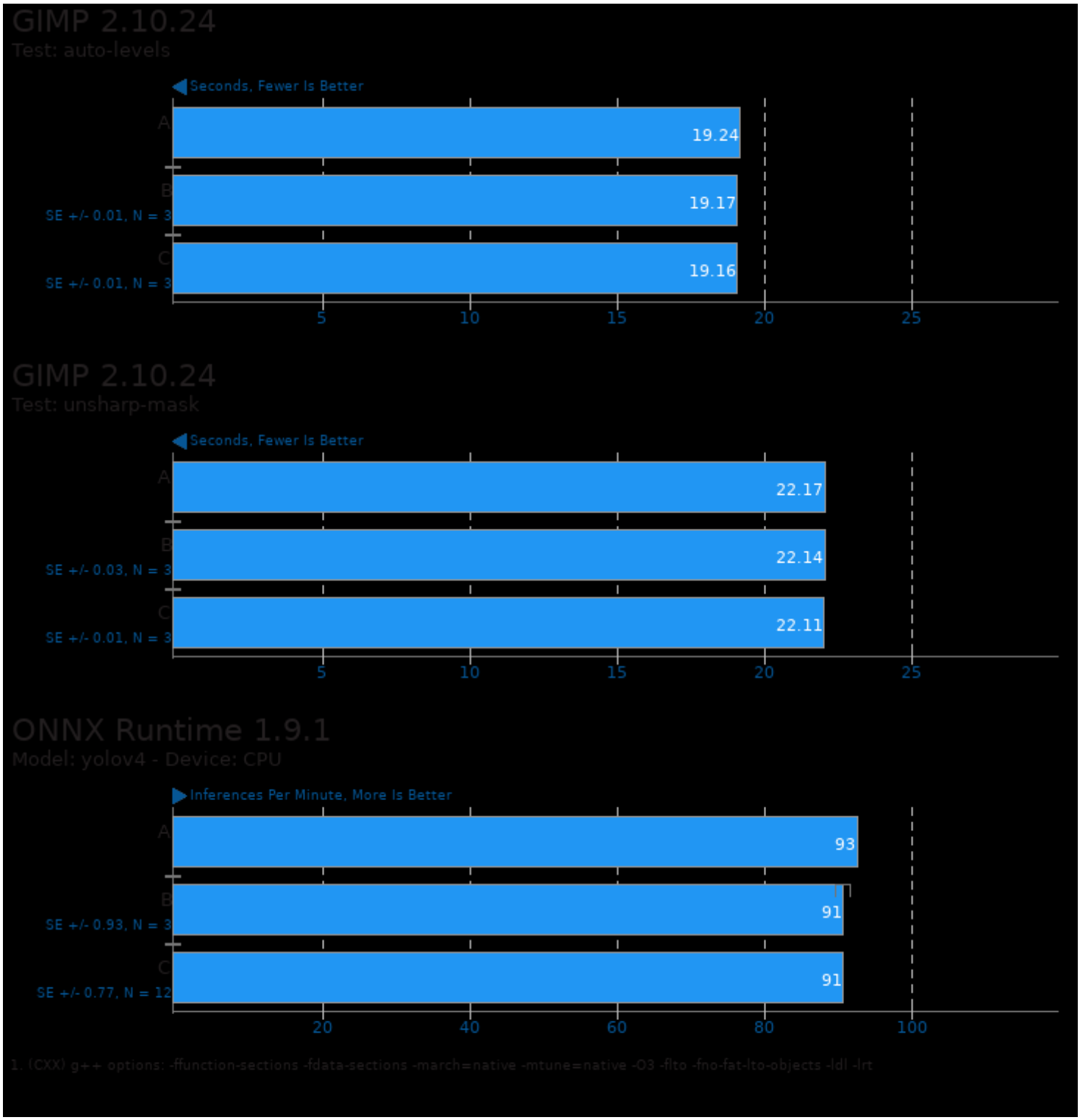

AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
40.01
B
39.65
SE +/- 0.33, N = 3
C
39.47
SE +/- 0.30, N = 3
9
18
27
36
45
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
44.37
B
44.24
SE +/- 0.27, N = 3
C
44.28
SE +/- 0.41, N = 3
10
20
30
40
50
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
rav1e 0.5
Speed: 5
Frames Per Second, More Is Better
A
0.614
B
0.615
SE +/- 0.002, N = 3
C
0.612
SE +/- 0.002, N = 3
0.1384
0.2768
0.4152
0.5536
0.692

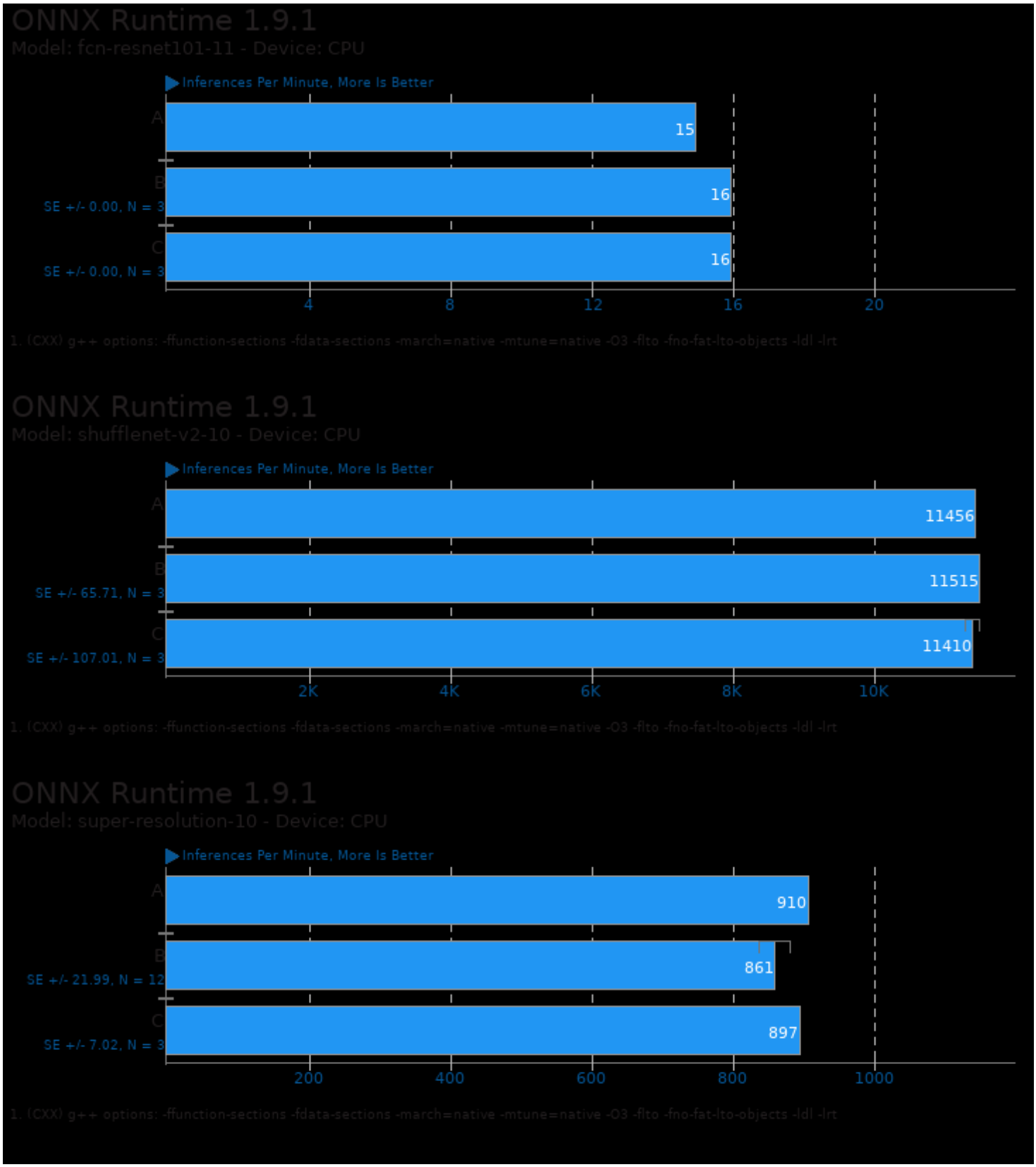

rav1e 0.5
Speed: 6
Frames Per Second, More Is Better
A
0.845
B
0.838
SE +/- 0.004, N = 3
C
0.838
SE +/- 0.004, N = 3
0.1901
0.3802
0.5703
0.7604
0.9505
rav1e 0.5
Speed: 10
Frames Per Second, More Is Better
A
2.640
B
2.617
SE +/- 0.017, N = 3
C
2.610
SE +/- 0.014, N = 3
0.594
1.188
1.782
2.376
2.97
OpenSSL 3.0
Algorithm: SHA256
byte/s, More Is Better
A
468102670
B
467779183
E +/- 227275.07, N = 3
C
467121283
E +/- 290038.41, N = 3
100M
200M
300M
400M
500M
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

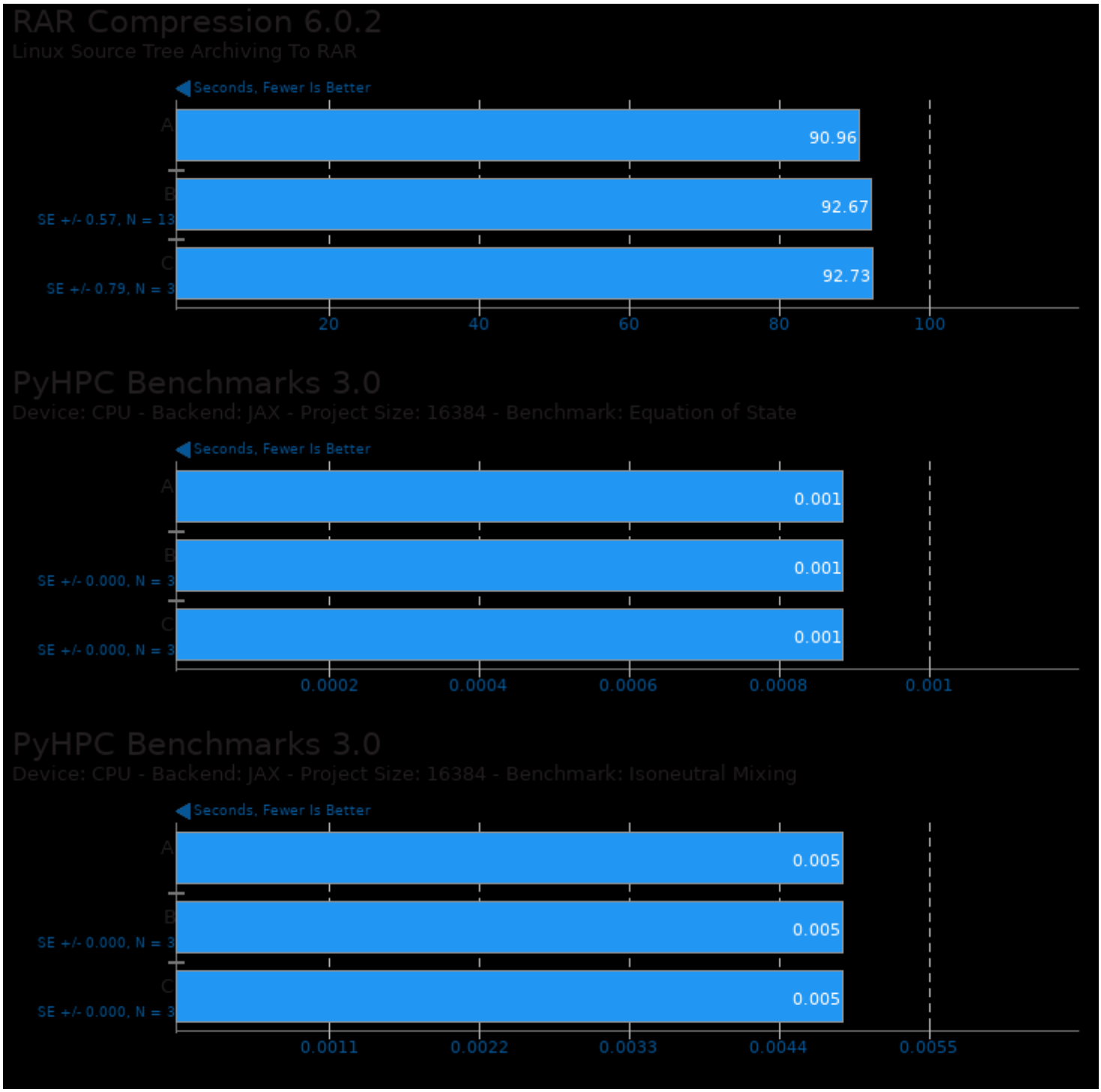

OpenSSL 3.0
Algorithm: RSA4096
sign/s, More Is Better
A
439.2
B
431.2
SE +/- 4.19, N = 3
C
431.1
SE +/- 3.88, N = 3
100
200
300
400
500
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl
OpenSSL 3.0
Algorithm: RSA4096
verify/s, More Is Better
A
27518.4
B
27587.6
SE +/- 83.67, N = 3
C
27582.3
SE +/- 47.22, N = 3
6K
12K
18K
24K
30K
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl
OpenSSL
sign/s, More Is Better
A
442.5
B
446.8
SE +/- 5.23, N = 3
C
448.7
SE +/- 3.09, N = 3
100
200
300
400
500
1. OpenSSL 1.1.1l 24 Aug 2021

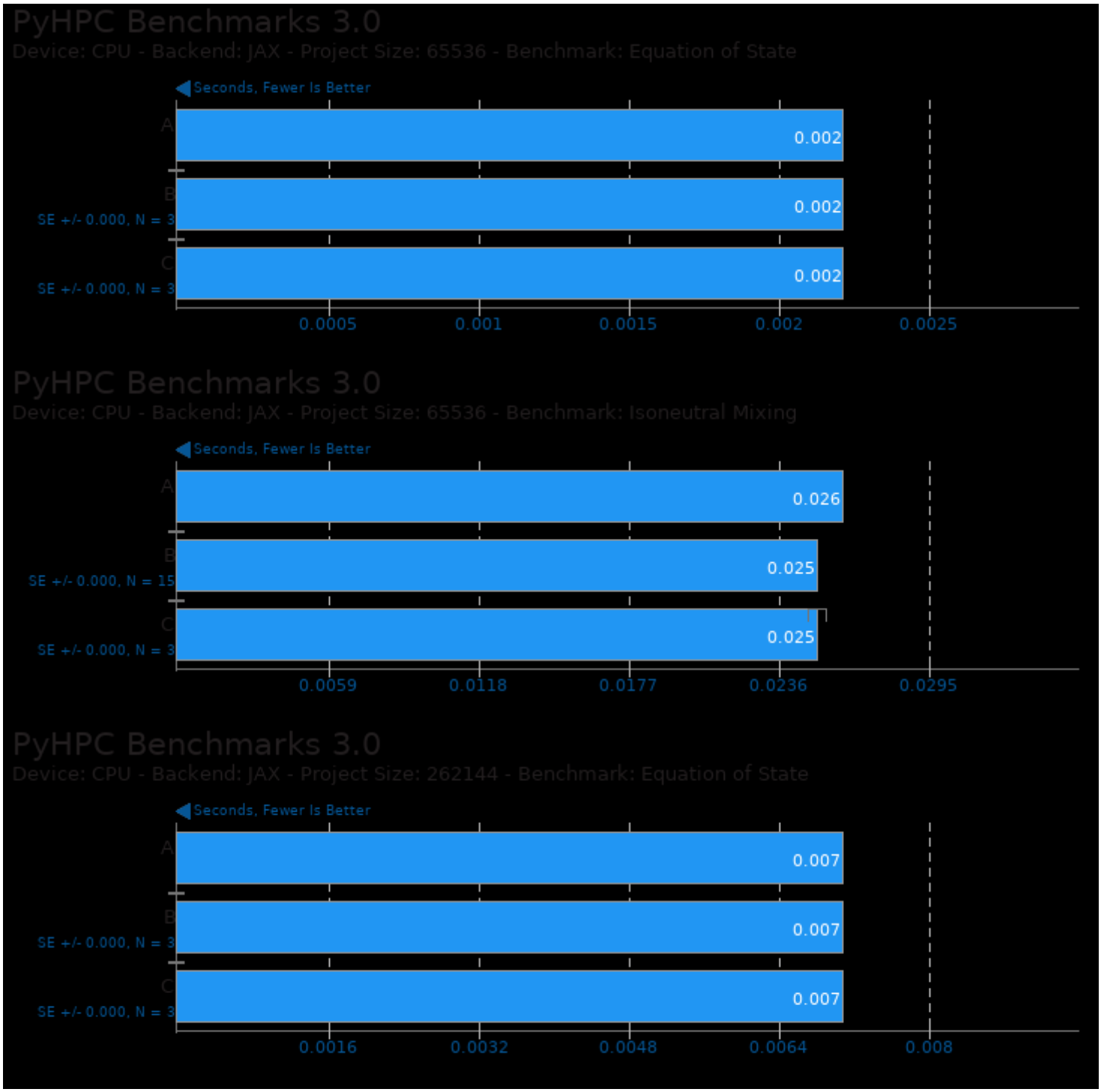

OpenSSL
verify/s, More Is Better
A
29310.6
B
28509.1
SE +/- 456.05, N = 3
C
28569.9
SE +/- 510.31, N = 3
6K
12K
18K
24K
30K
1. OpenSSL 1.1.1l 24 Aug 2021
ASTC Encoder 3.2
Preset: Medium
Seconds, Fewer Is Better
A
6.3797
B
6.3961
SE +/- 0.0104, N = 3
C
6.3901
SE +/- 0.0093, N = 3
2
4
6
8
10
1. (CXX) g++ options: -O3 -flto -pthread
ASTC Encoder 3.2
Preset: Thorough
Seconds, Fewer Is Better
A
44.34
B
45.32
SE +/- 0.42, N = 3
C
45.29
SE +/- 0.42, N = 3
10
20
30
40
50
1. (CXX) g++ options: -O3 -flto -pthread

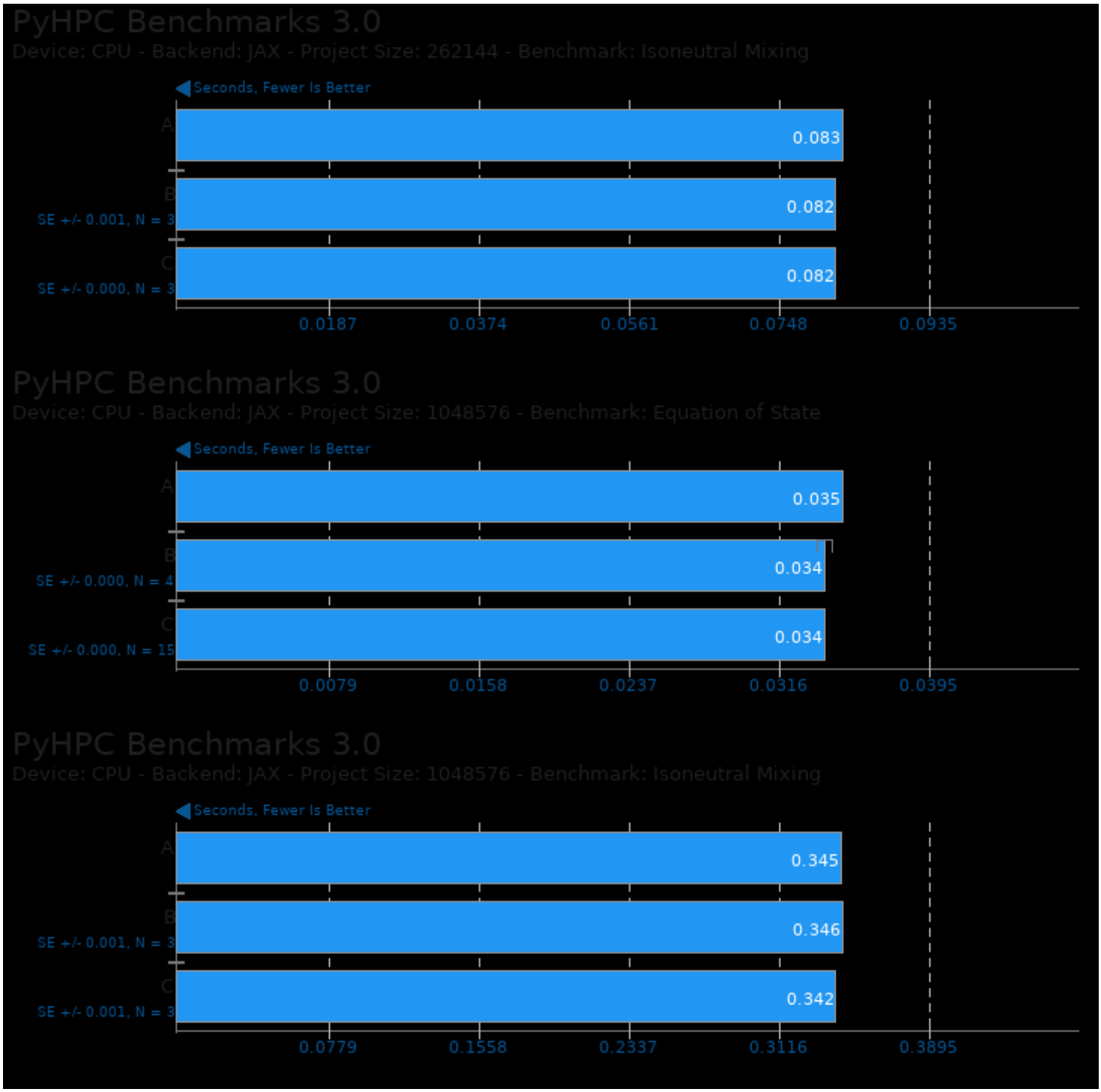

ASTC Encoder 3.2
Preset: Exhaustive
Seconds, Fewer Is Better
A
425.14
B
426.14
SE +/- 0.42, N = 3
C
425.94
SE +/- 0.58, N = 3
90
180
270
360
450
1. (CXX) g++ options: -O3 -flto -pthread
GIMP 2.10.24
Test: resize
Seconds, Fewer Is Better
A
18.00
B
17.70
SE +/- 0.14, N = 3
C
17.68
SE +/- 0.11, N = 3
4
8
12
16
20
GIMP 2.10.24
Test: rotate
Seconds, Fewer Is Better
A
16.81
B
16.77
SE +/- 0.02, N = 3
C
16.74
SE +/- 0.04, N = 3
4
8
12
16
20

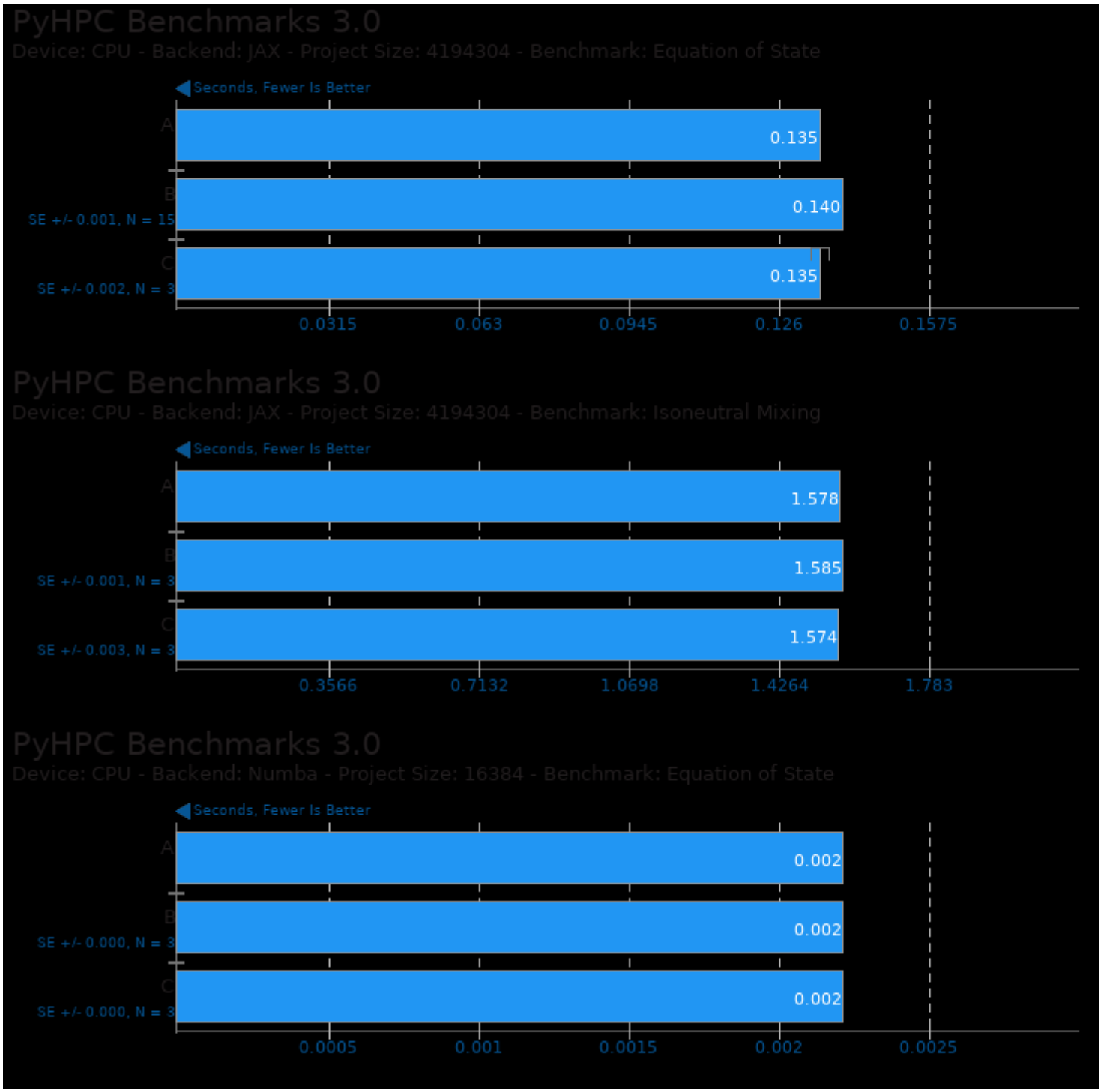

GIMP 2.10.24
Test: auto-levels
Seconds, Fewer Is Better
A
19.24
B
19.17
SE +/- 0.01, N = 3
C
19.16
SE +/- 0.01, N = 3
5
10
15
20
25
GIMP 2.10.24
Test: unsharp-mask
Seconds, Fewer Is Better
A
22.17
B
22.14
SE +/- 0.03, N = 3
C
22.11
SE +/- 0.01, N = 3
5
10
15
20
25
ONNX Runtime 1.9.1
Model: yolov4 - Device: CPU
Inferences Per Minute, More Is Better
A
93
B
91
SE +/- 0.93, N = 3
C
91
SE +/- 0.77, N = 12
20
40
60
80
100
1. (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -flto -fno-fat-lto-objects -ldl -lrt

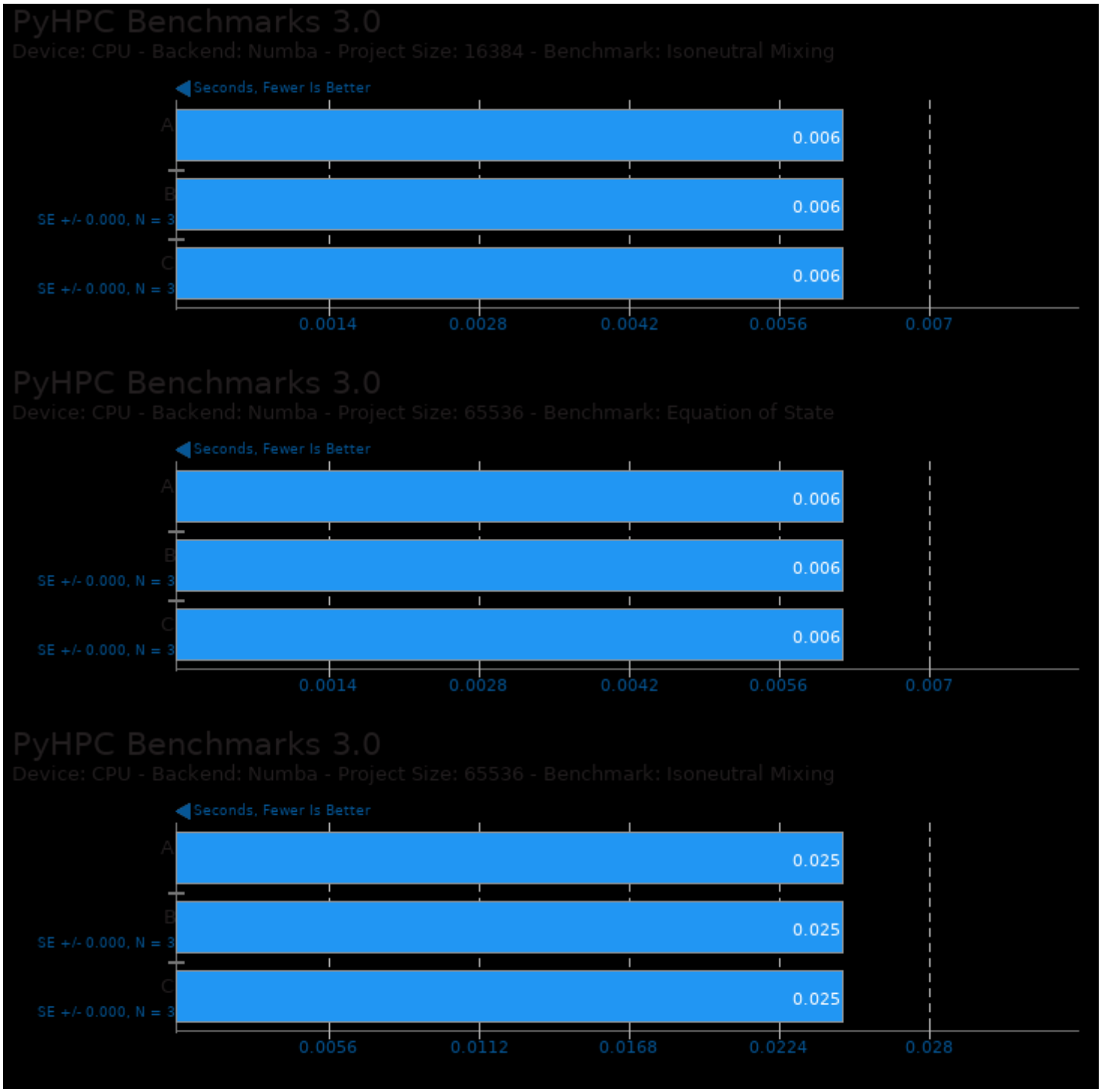

ONNX Runtime 1.9.1
Model: fcn-resnet101-11 - Device: CPU
Inferences Per Minute, More Is Better
A
15
B
16
SE +/- 0.00, N = 3
C
16
SE +/- 0.00, N = 3
4
8
12
16
20
1. (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -flto -fno-fat-lto-objects -ldl -lrt
ONNX Runtime 1.9.1
Model: shufflenet-v2-10 - Device: CPU
Inferences Per Minute, More Is Better
A
11456
B
11515
SE +/- 65.71, N = 3
C
11410
SE +/- 107.01, N = 3
2K
4K
6K
8K
10K
1. (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -flto -fno-fat-lto-objects -ldl -lrt
ONNX Runtime 1.9.1
Model: super-resolution-10 - Device: CPU
Inferences Per Minute, More Is Better
A
910
B
861
SE +/- 21.99, N = 12
C
897
SE +/- 7.02, N = 3
200
400
600
800
1000
1. (CXX) g++ options: -ffunction-sections -fdata-sections -march=native -mtune=native -O3 -flto -fno-fat-lto-objects -ldl -lrt

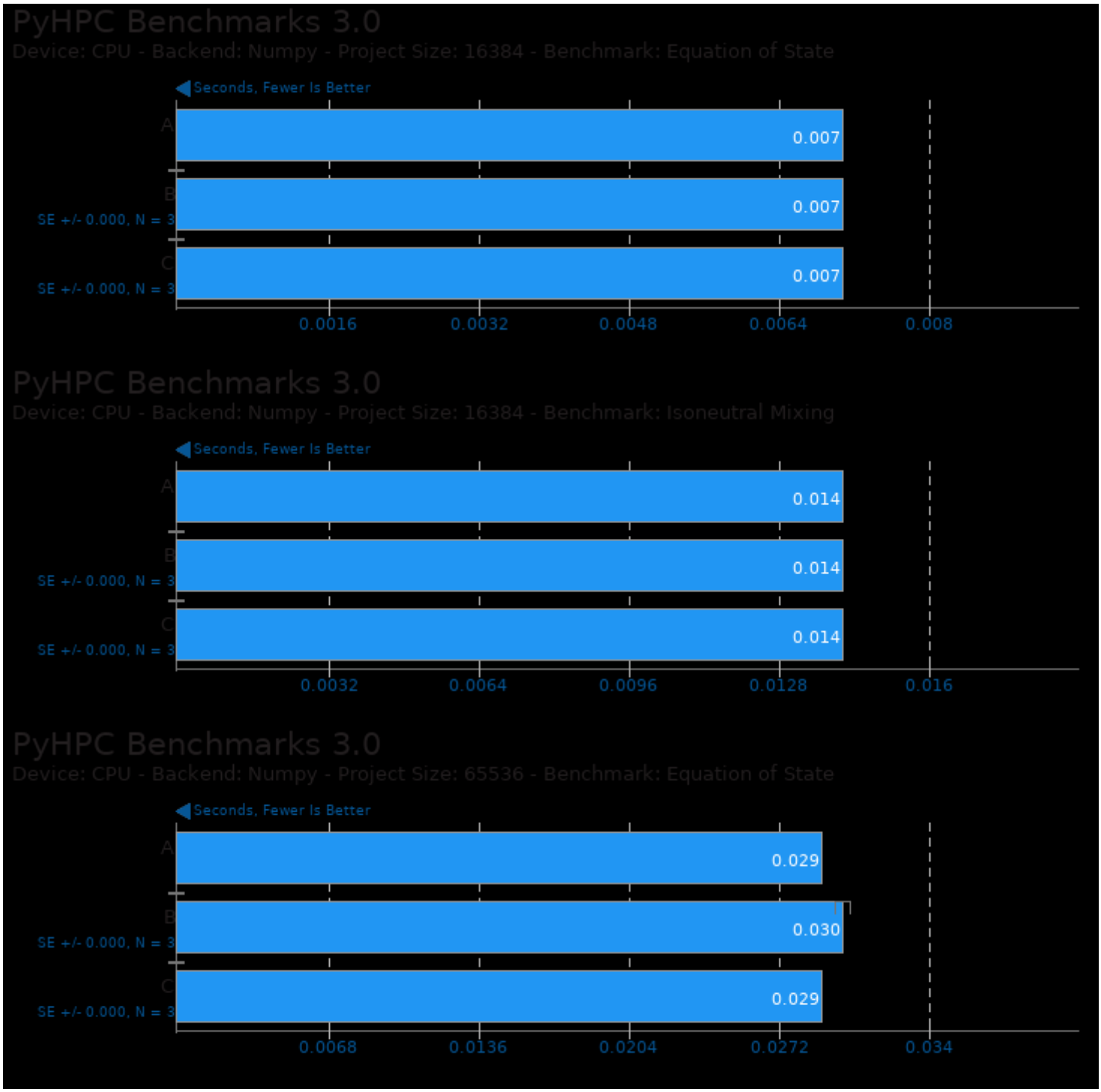

RAR Compression 6.0.2
Linux Source Tree Archiving To RAR
Seconds, Fewer Is Better
A
90.96
B
92.67
SE +/- 0.57, N = 13
C
92.73
SE +/- 0.79, N = 3
20
40
60
80
100
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.001
B
0.001
SE +/- 0.000, N = 3
C
0.001
SE +/- 0.000, N = 3
0.0002
0.0004
0.0006
0.0008
0.001
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.005
B
0.005
SE +/- 0.000, N = 3
C
0.005
SE +/- 0.000, N = 3
0.0011
0.0022
0.0033
0.0044
0.0055

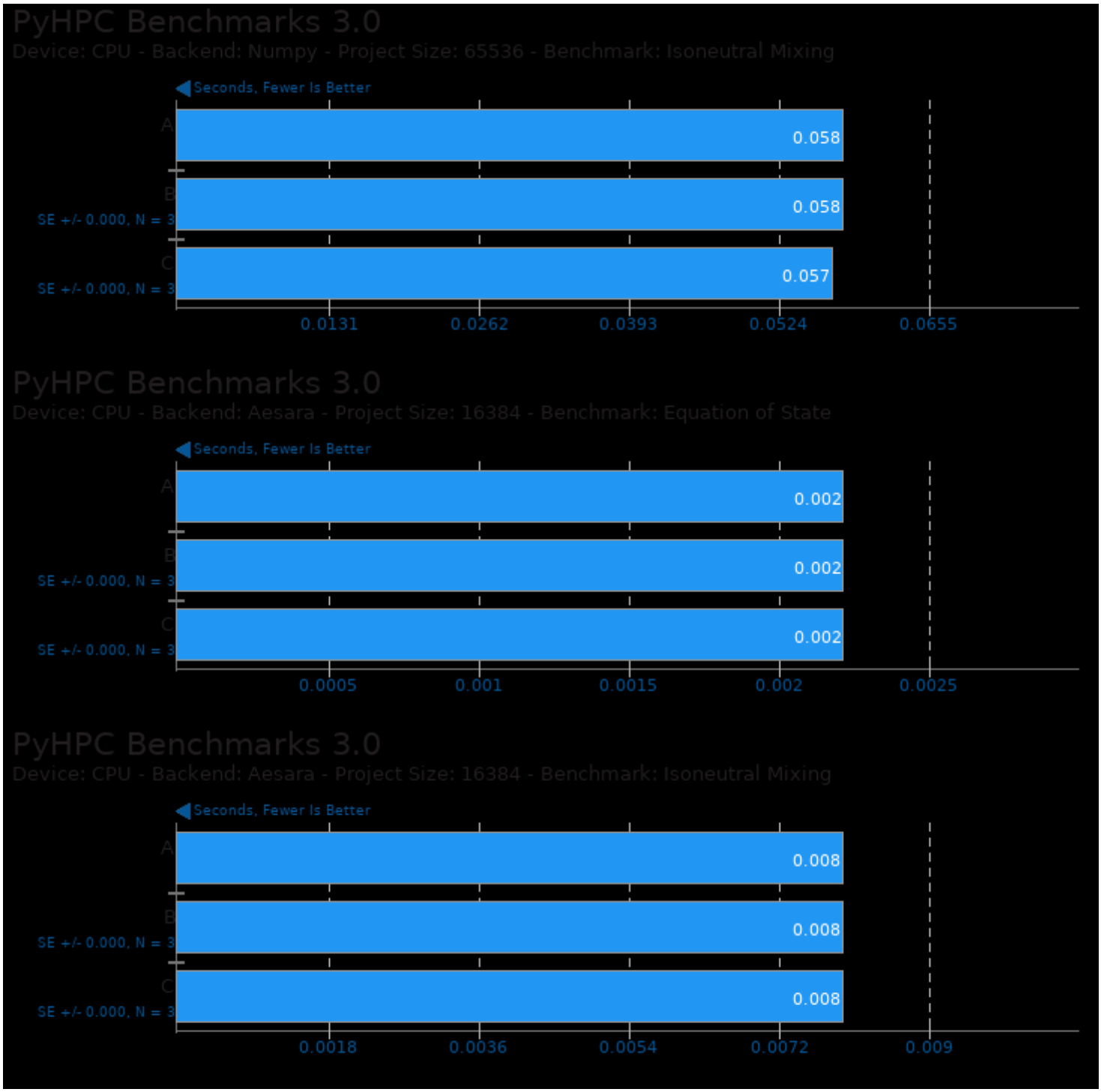

PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.002
B
0.002
SE +/- 0.000, N = 3
C
0.002
SE +/- 0.000, N = 3
0.0005
0.001
0.0015
0.002
0.0025
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.026
B
0.025
SE +/- 0.000, N = 15
C
0.025
SE +/- 0.000, N = 3
0.0059
0.0118
0.0177
0.0236
0.0295
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.007
B
0.007
SE +/- 0.000, N = 3
C
0.007
SE +/- 0.000, N = 3
0.0016
0.0032
0.0048
0.0064
0.008

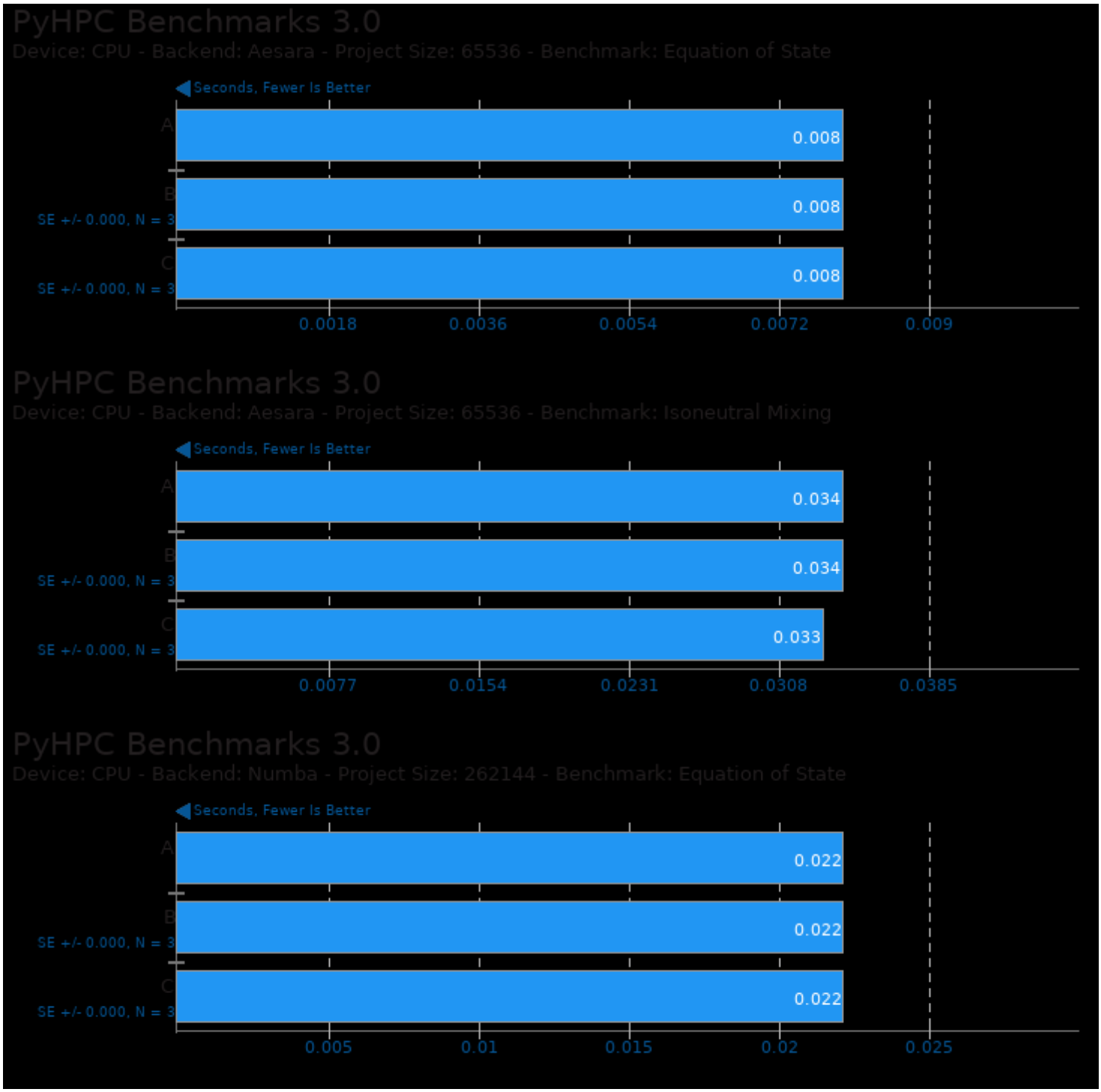

PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.083
B
0.082
SE +/- 0.001, N = 3
C
0.082
SE +/- 0.000, N = 3
0.0187
0.0374
0.0561
0.0748
0.0935
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.035
B
0.034
SE +/- 0.000, N = 4
C
0.034
SE +/- 0.000, N = 15
0.0079
0.0158
0.0237
0.0316
0.0395
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.345
B
0.346
SE +/- 0.001, N = 3
C
0.342
SE +/- 0.001, N = 3
0.0779
0.1558
0.2337
0.3116
0.3895

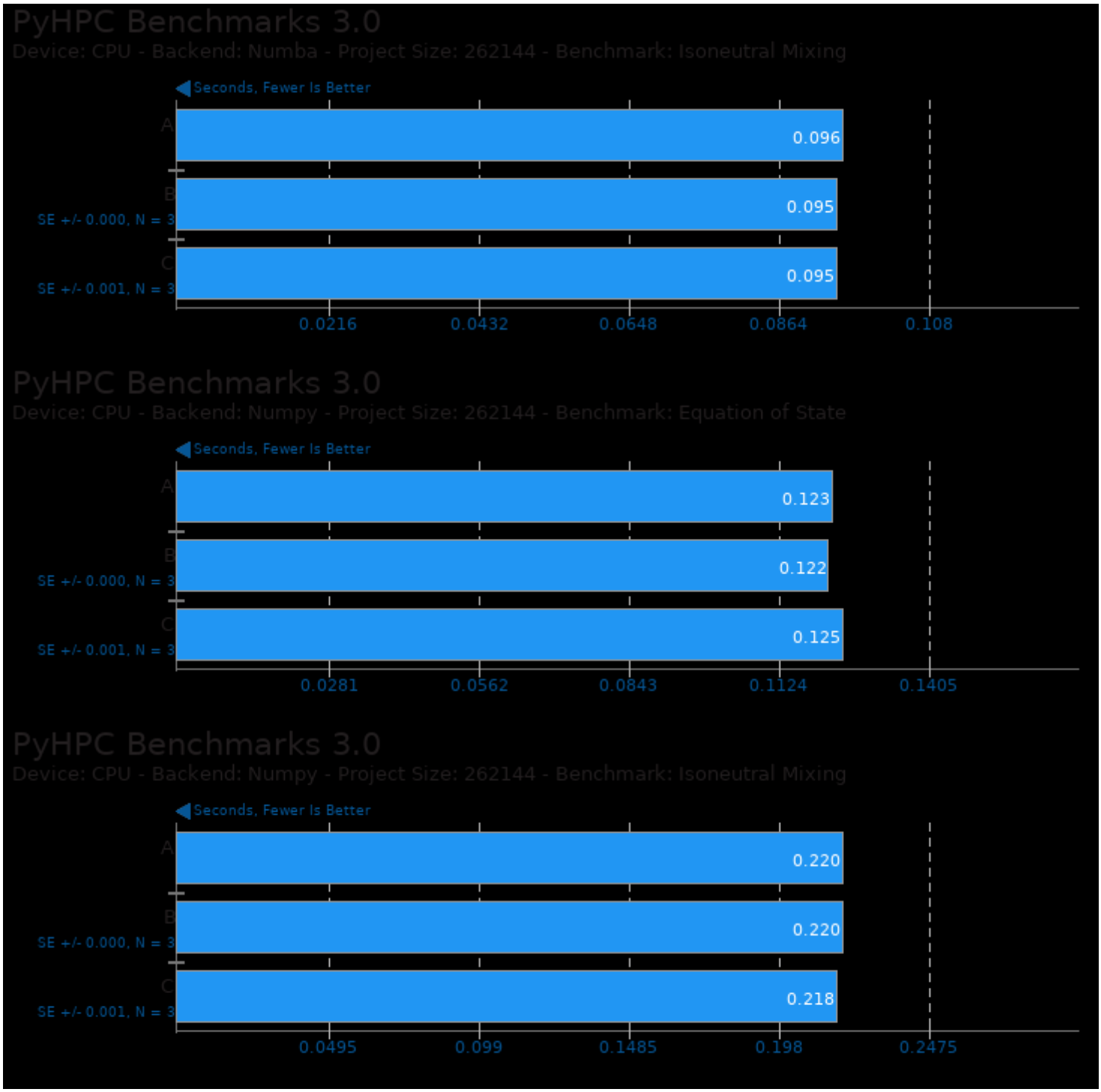

PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.135
B
0.140
SE +/- 0.001, N = 15
C
0.135
SE +/- 0.002, N = 3
0.0315
0.063
0.0945
0.126
0.1575
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
1.578
B
1.585
SE +/- 0.001, N = 3
C
1.574
SE +/- 0.003, N = 3
0.3566
0.7132
1.0698
1.4264
1.783
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.002
B
0.002
SE +/- 0.000, N = 3
C
0.002
SE +/- 0.000, N = 3
0.0005
0.001
0.0015
0.002
0.0025

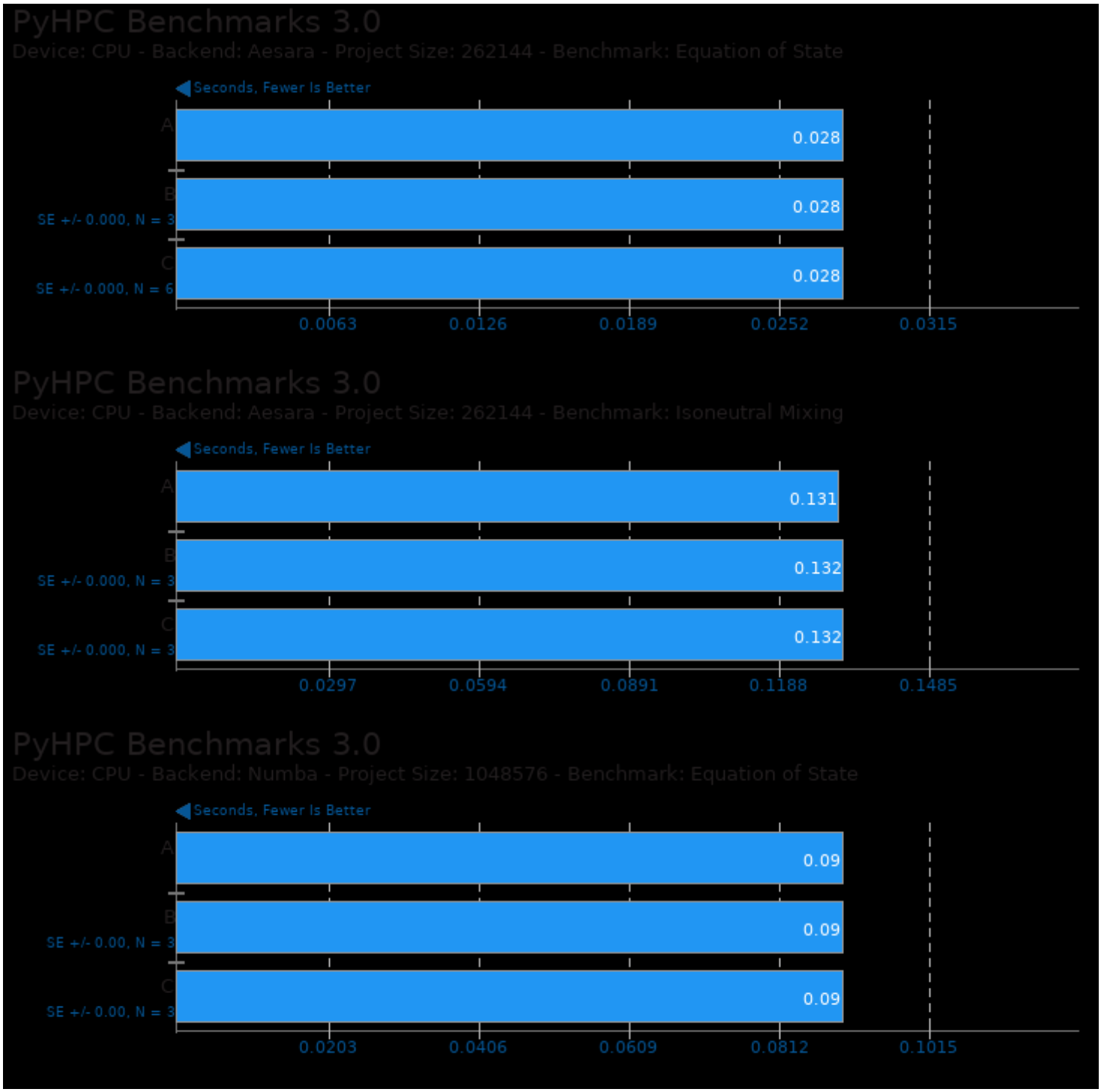

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.006
B
0.006
SE +/- 0.000, N = 3
C
0.006
SE +/- 0.000, N = 3
0.0014
0.0028
0.0042
0.0056
0.007
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.006
B
0.006
SE +/- 0.000, N = 3
C
0.006
SE +/- 0.000, N = 3
0.0014
0.0028
0.0042
0.0056
0.007
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.025
B
0.025
SE +/- 0.000, N = 3
C
0.025
SE +/- 0.000, N = 3
0.0056
0.0112
0.0168
0.0224
0.028

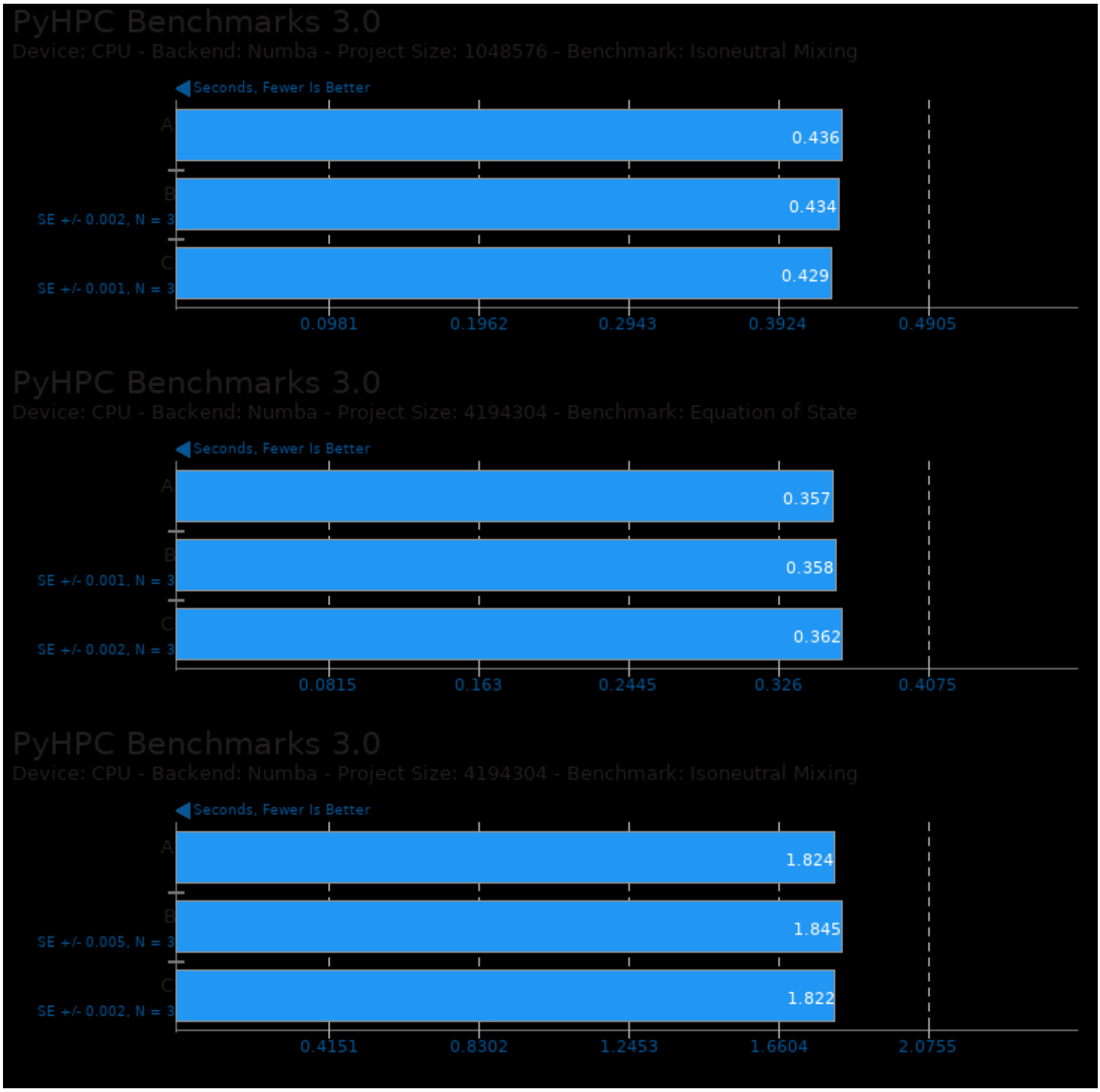

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.007
B
0.007
SE +/- 0.000, N = 3
C
0.007
SE +/- 0.000, N = 3
0.0016
0.0032
0.0048
0.0064
0.008
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.014
B
0.014
SE +/- 0.000, N = 3
C
0.014
SE +/- 0.000, N = 3
0.0032
0.0064
0.0096
0.0128
0.016
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.029
B
0.030
SE +/- 0.000, N = 3
C
0.029
SE +/- 0.000, N = 3
0.0068
0.0136
0.0204
0.0272
0.034

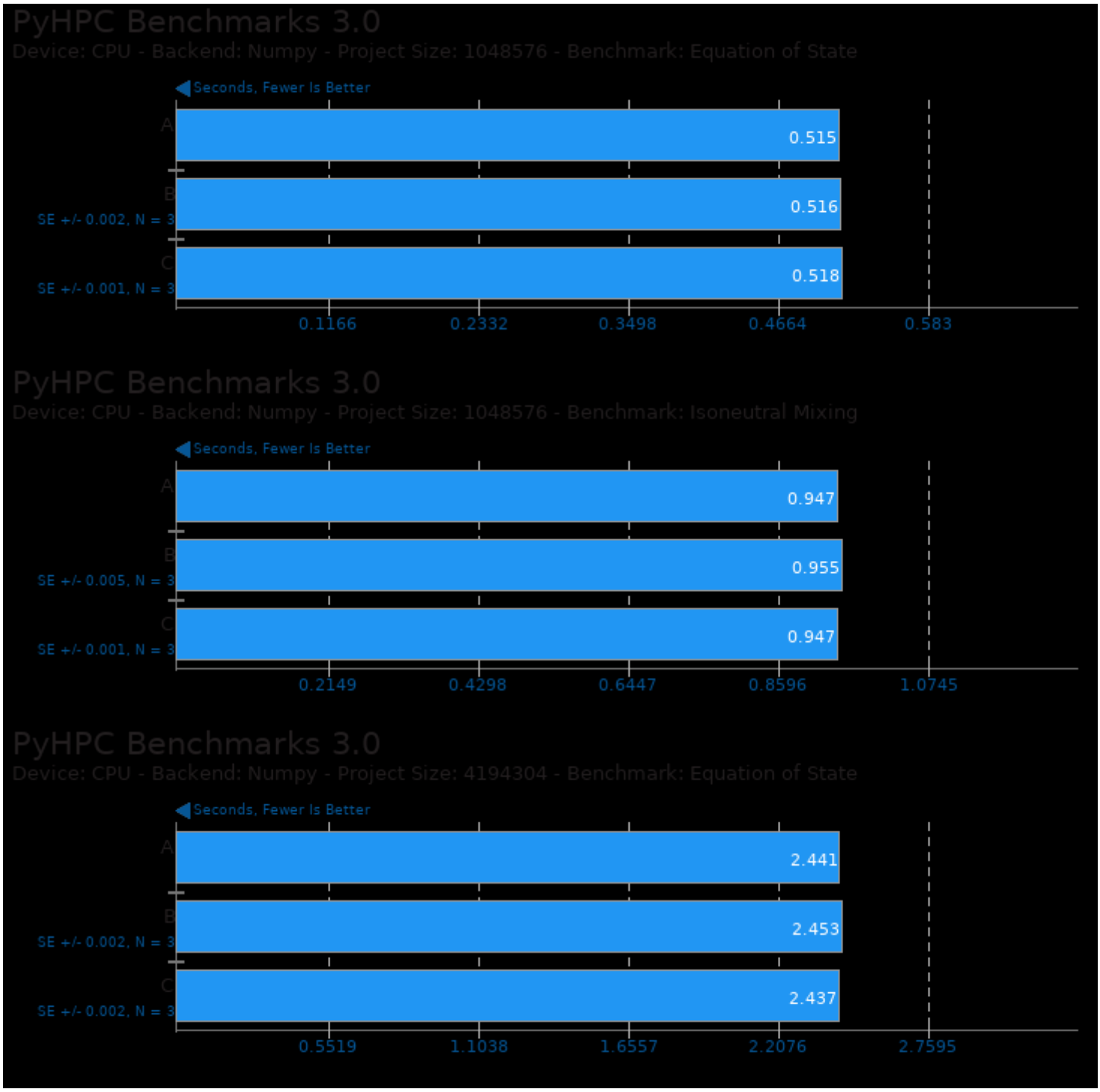

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.058
B
0.058
SE +/- 0.000, N = 3
C
0.057
SE +/- 0.000, N = 3
0.0131
0.0262
0.0393
0.0524
0.0655
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.002
B
0.002
SE +/- 0.000, N = 3
C
0.002
SE +/- 0.000, N = 3
0.0005
0.001
0.0015
0.002
0.0025
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.008
B
0.008
SE +/- 0.000, N = 3
C
0.008
SE +/- 0.000, N = 3
0.0018
0.0036
0.0054
0.0072
0.009

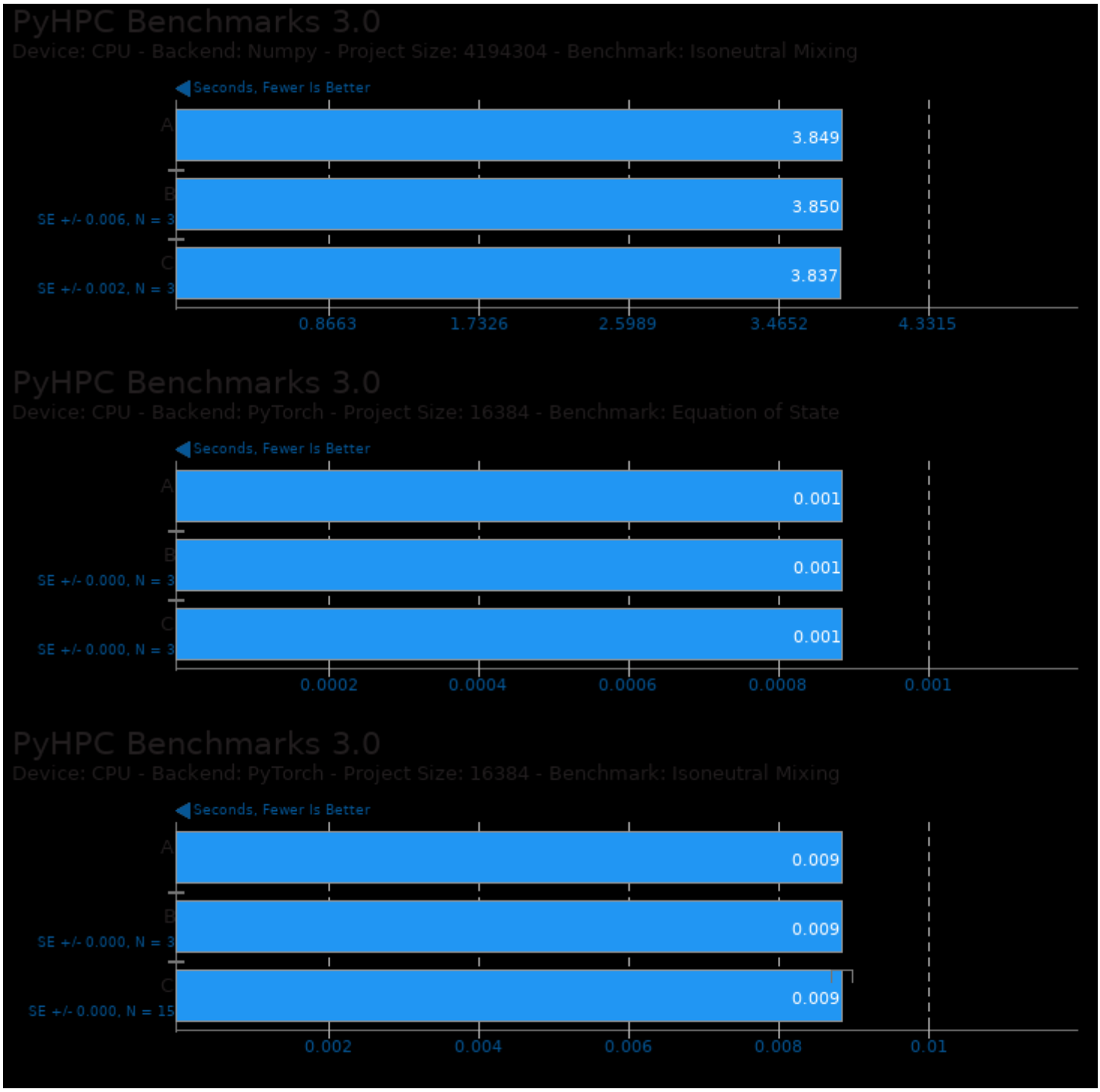

PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
SE +/- 0.000, N = 3
SE +/- 0.000, N = 3
0.008
0.008
0.008
0.0018
0.0036
0.0054
0.0072
0.009
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
SE +/- 0.000, N = 3
SE +/- 0.000, N = 3
0.034
0.034
0.033
0.0077
0.0154
0.0231
0.0308
0.0385
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
SE +/- 0.000, N = 3
SE +/- 0.000, N = 3
0.022
0.022
0.022
0.005
0.01
0.015
0.02
0.025

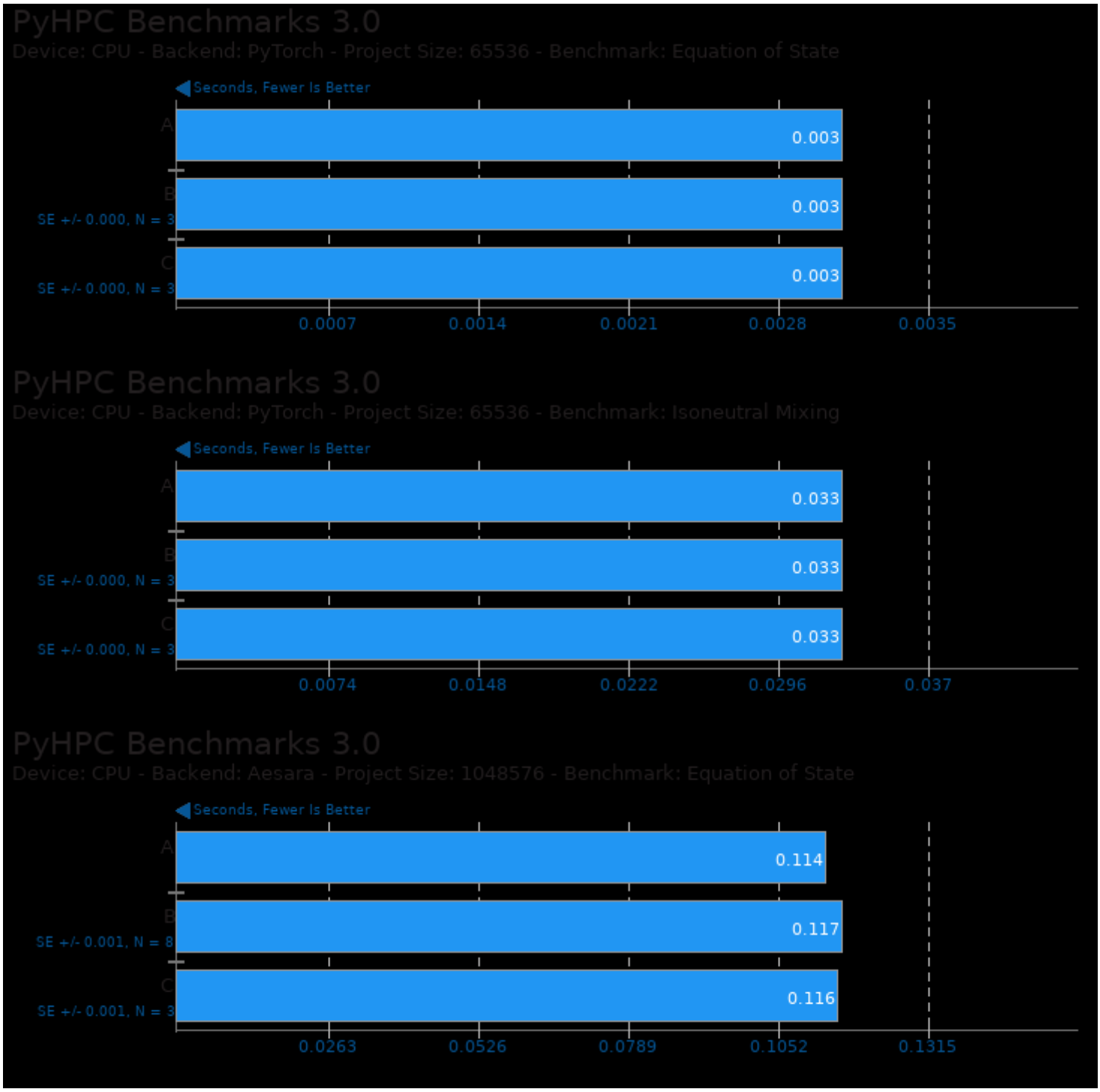

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.096
B
0.095
SE +/- 0.000, N = 3
C
0.095
SE +/- 0.001, N = 3
0.0216
0.0432
0.0648
0.0864
0.108
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.123
B
0.122
SE +/- 0.000, N = 3
C
0.125
SE +/- 0.001, N = 3
0.0281
0.0562
0.0843
0.1124
0.1405
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.220
B
0.220
SE +/- 0.000, N = 3
C
0.218
SE +/- 0.001, N = 3
0.0495
0.099
0.1485
0.198
0.2475

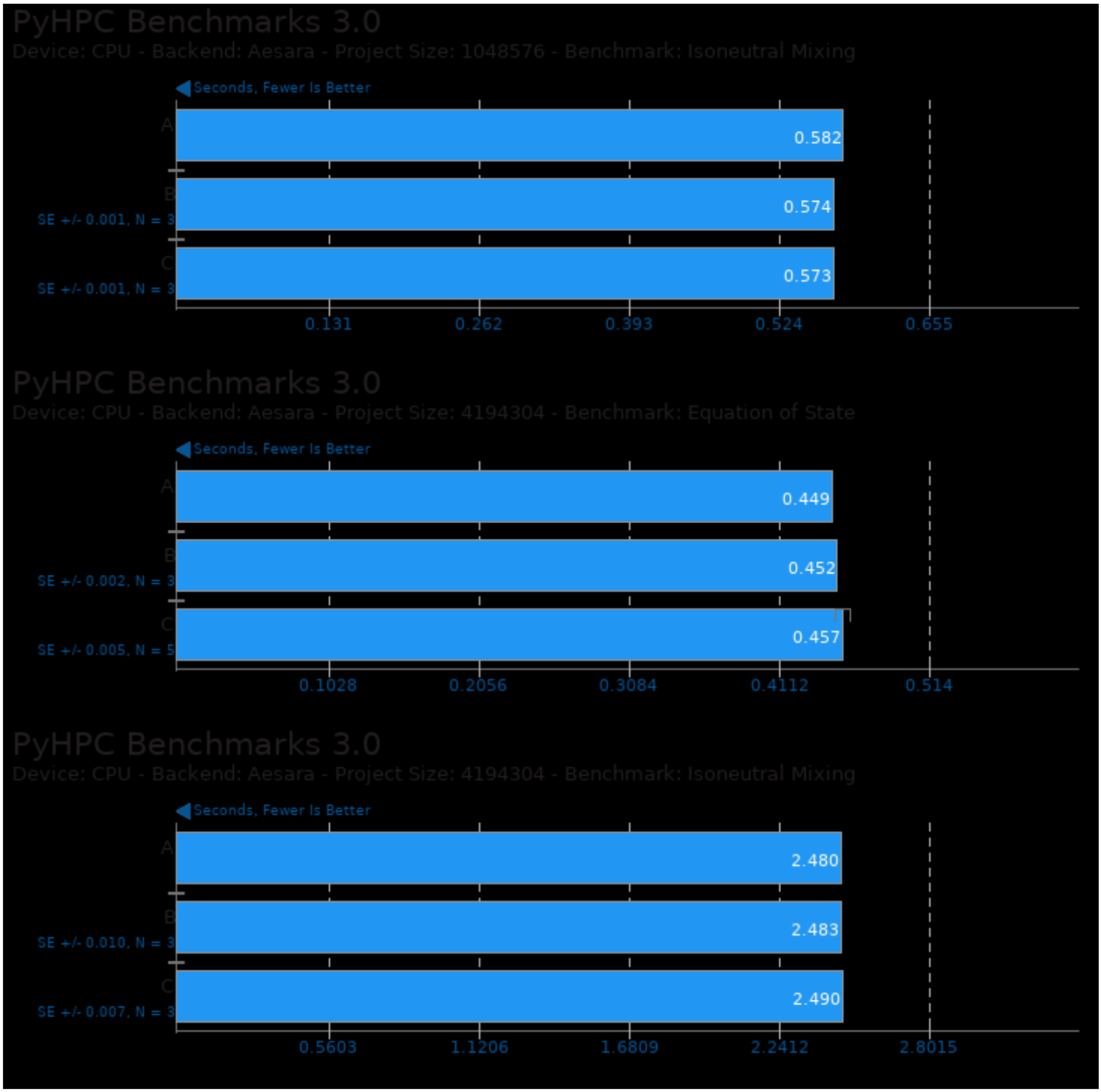

PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.028
B
0.028
SE +/- 0.000, N = 3
C
0.028
SE +/- 0.000, N = 6
0.0063
0.0126
0.0189
0.0252
0.0315
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.131
B
0.132
SE +/- 0.000, N = 3
C
0.132
SE +/- 0.000, N = 3
0.0297
0.0594
0.0891
0.1188
0.1485
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.09
B
0.09
SE +/- 0.00, N = 3
C
0.09
SE +/- 0.00, N = 3
0.0203
0.0406
0.0609
0.0812
0.1015

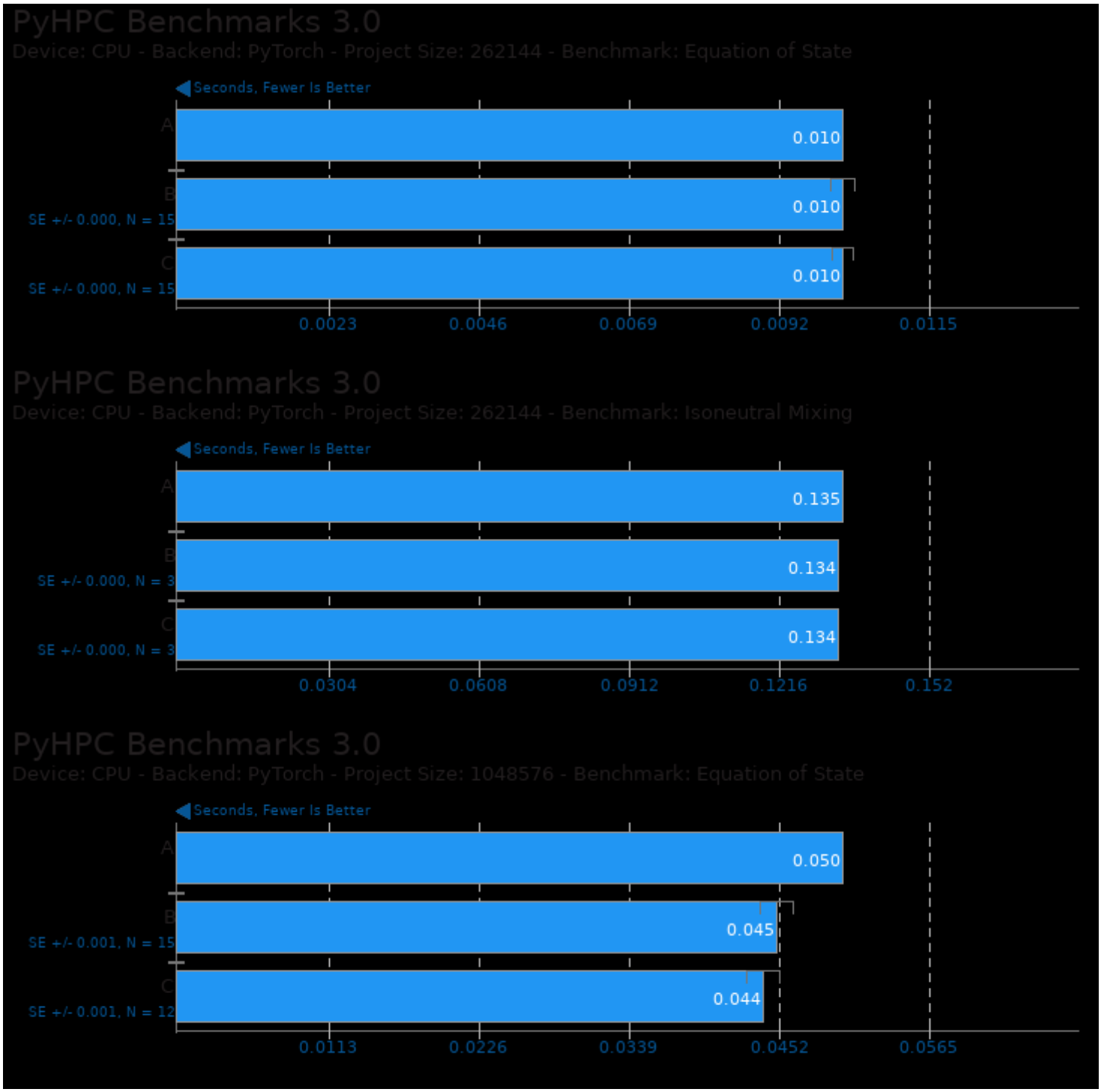

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.436
B
0.434
SE +/- 0.002, N = 3
C
0.429
SE +/- 0.001, N = 3
0.0981
0.1962
0.2943
0.3924
0.4905
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.357
B
0.358
SE +/- 0.001, N = 3
C
0.362
SE +/- 0.002, N = 3
0.0815
0.163
0.2445
0.326
0.4075
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
1.824
B
1.845
SE +/- 0.005, N = 3
C
1.822
SE +/- 0.002, N = 3
0.4151
0.8302
1.2453
1.6604
2.0755

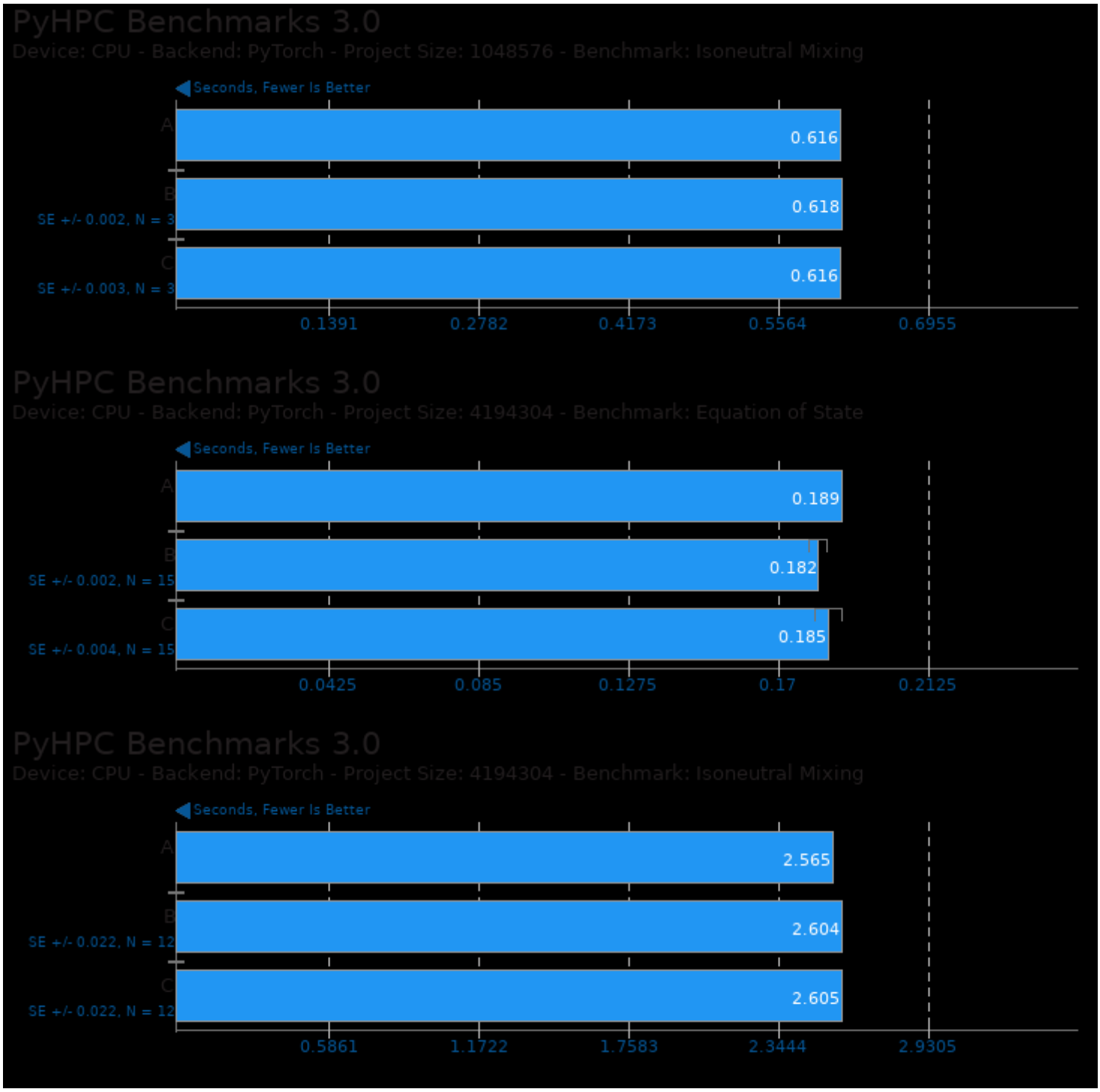

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.515
B
0.516
SE +/- 0.002, N = 3
C
0.518
SE +/- 0.001, N = 3
0.1166
0.2332
0.3498
0.4664
0.583
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.947
B
0.955
SE +/- 0.005, N = 3
C
0.947
SE +/- 0.001, N = 3
0.2149
0.4298
0.6447
0.8596
1.0745
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
2.441
B
2.453
SE +/- 0.002, N = 3
C
2.437
SE +/- 0.002, N = 3
0.5519
1.1038
1.6557
2.2076
2.7595

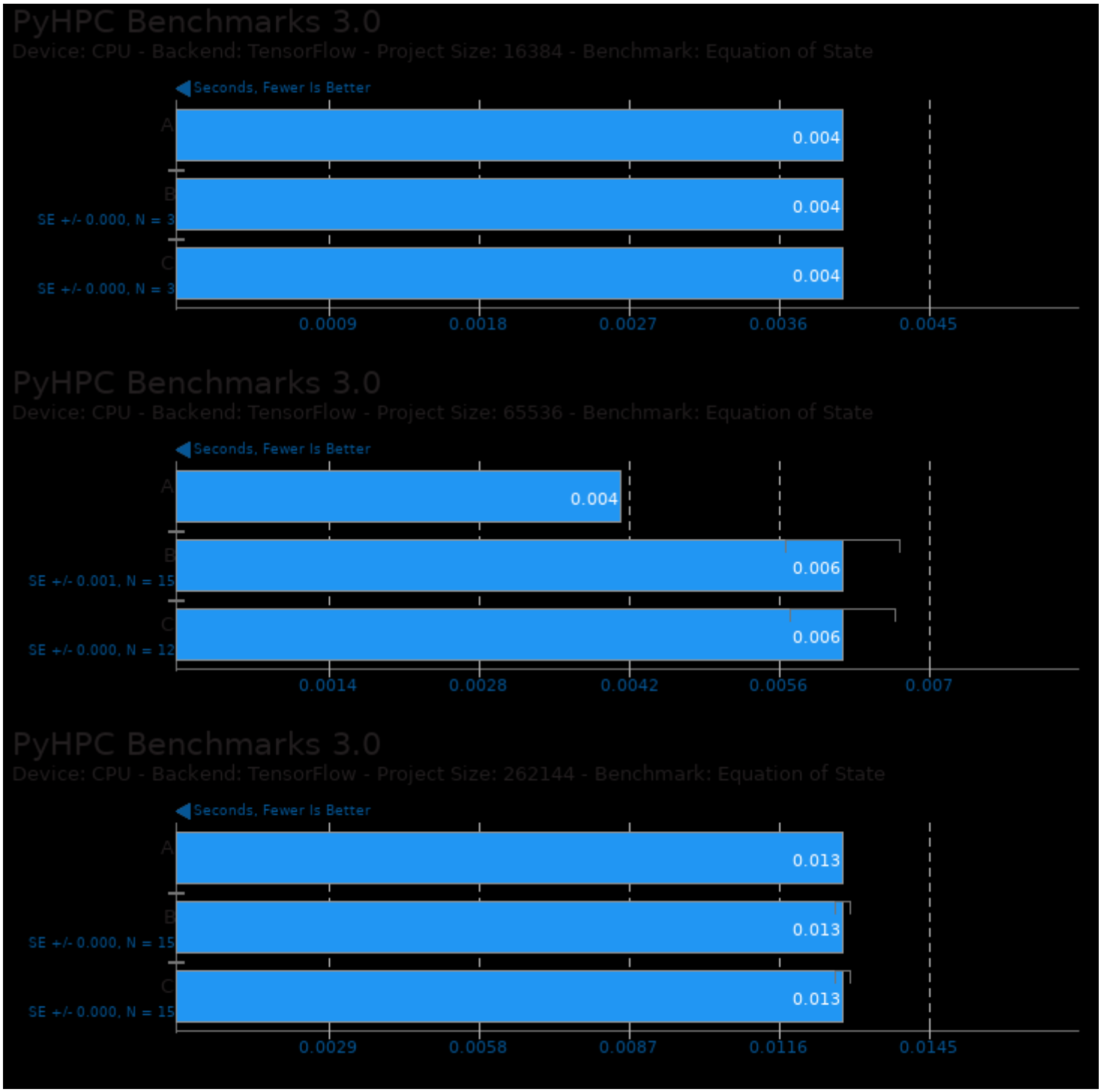

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
3.849
B
3.850
SE +/- 0.006, N = 3
C
3.837
SE +/- 0.002, N = 3
0.8663
1.7326
2.5989
3.4652
4.3315
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.001
B
0.001
SE +/- 0.000, N = 3
C
0.001
SE +/- 0.000, N = 3
0.0002
0.0004
0.0006
0.0008
0.001
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.009
B
0.009
SE +/- 0.000, N = 3
C
0.009
SE +/- 0.000, N = 15
0.002
0.004
0.006
0.008
0.01

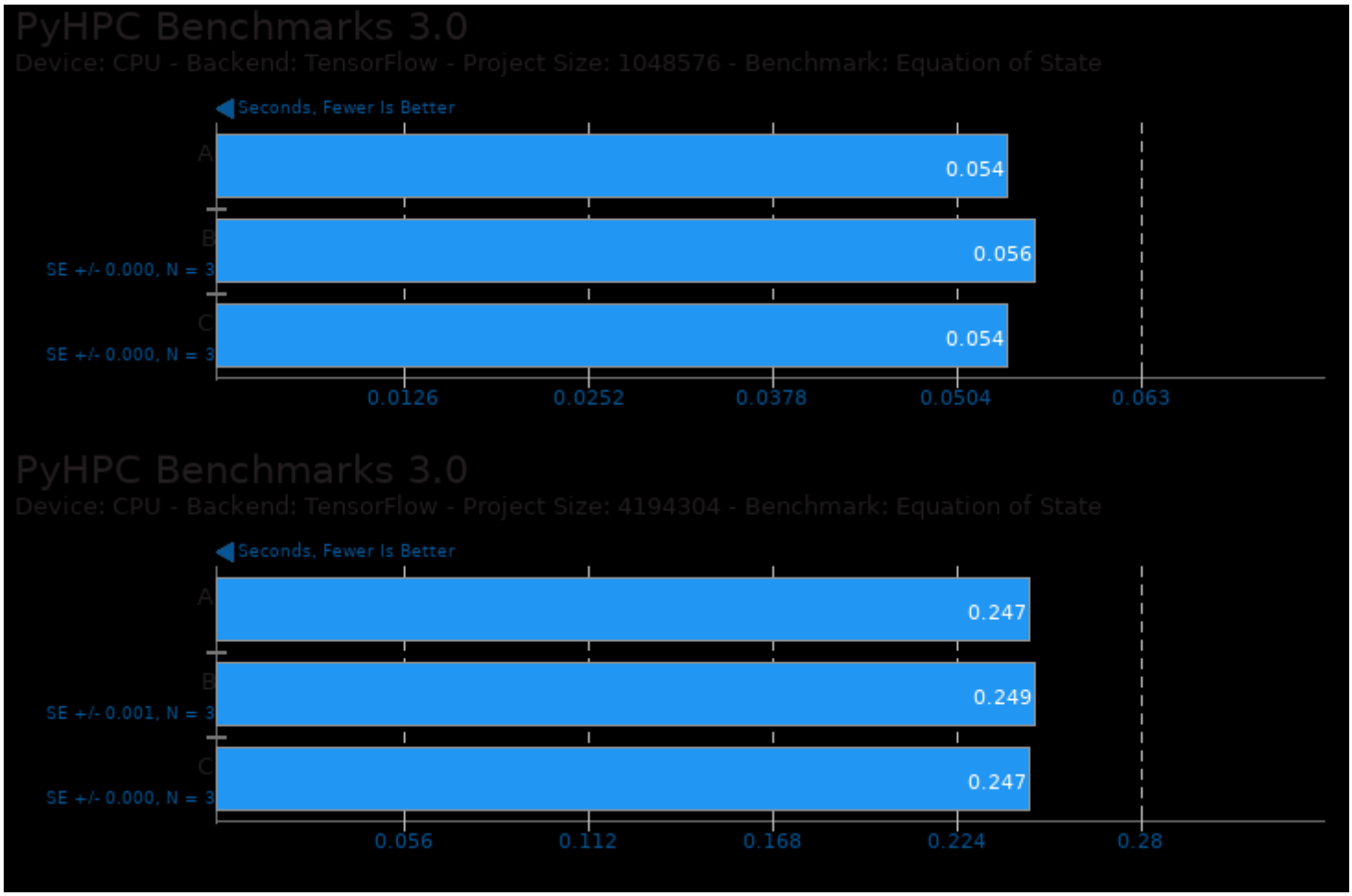

PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.003
B
0.003
SE +/- 0.000, N = 3
C
0.003
SE +/- 0.000, N = 3
0.0007
0.0014
0.0021
0.0028
0.0035
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.033
B
0.033
SE +/- 0.000, N = 3
C
0.033
SE +/- 0.000, N = 3
0.0074
0.0148
0.0222
0.0296
0.037
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.114
B
0.117
SE +/- 0.001, N = 8
C
0.116
SE +/- 0.001, N = 3
0.0263
0.0526
0.0789
0.1052
0.1315


PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.582
B
0.574
SE +/- 0.001, N = 3
C
0.573
SE +/- 0.001, N = 3
0.131
0.262
0.393
0.524
0.655
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.449
B
0.452
SE +/- 0.002, N = 3
C
0.457
SE +/- 0.005, N = 5
0.1028
0.2056
0.3084
0.4112
0.514
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
2.480
B
2.483
SE +/- 0.010, N = 3
C
2.490
SE +/- 0.007, N = 3
0.5603
1.1206
1.6809
2.2412
2.8015

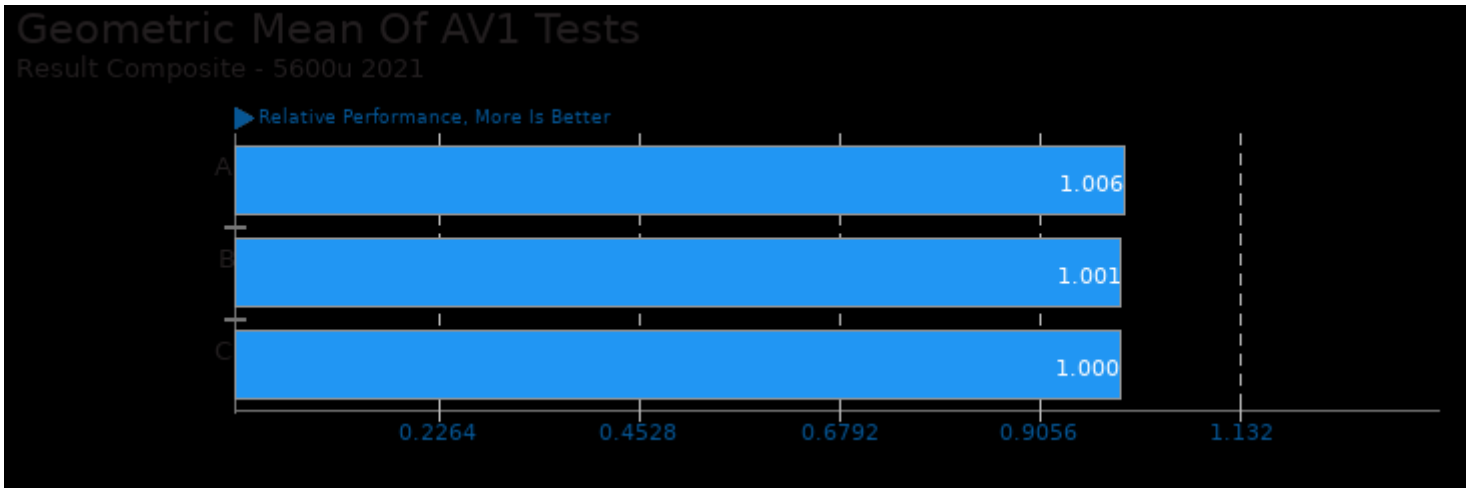

PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.010
B
0.010
SE +/- 0.000, N = 15
C
0.010
SE +/- 0.000, N = 15
0.0023
0.0046
0.0069
0.0092
0.0115
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.135
B
0.134
SE +/- 0.000, N = 3
C
0.134
SE +/- 0.000, N = 3
0.0304
0.0608
0.0912
0.1216
0.152
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.050
B
0.045
SE +/- 0.001, N = 15
C
0.044
SE +/- 0.001, N = 12
0.0113
0.0226
0.0339
0.0452
0.0565


PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
0.616
B
0.618
SE +/- 0.002, N = 3
C
0.616
SE +/- 0.003, N = 3
0.1391
0.2782
0.4173
0.5564
0.6955
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.189
B
0.182
SE +/- 0.002, N = 15
C
0.185
SE +/- 0.004, N = 15
0.0425
0.085
0.1275
0.17
0.2125
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
2.565
B
2.604
SE +/- 0.022, N = 12
C
2.605
SE +/- 0.022, N = 12
0.5861
1.1722
1.7583
2.3444
2.9305

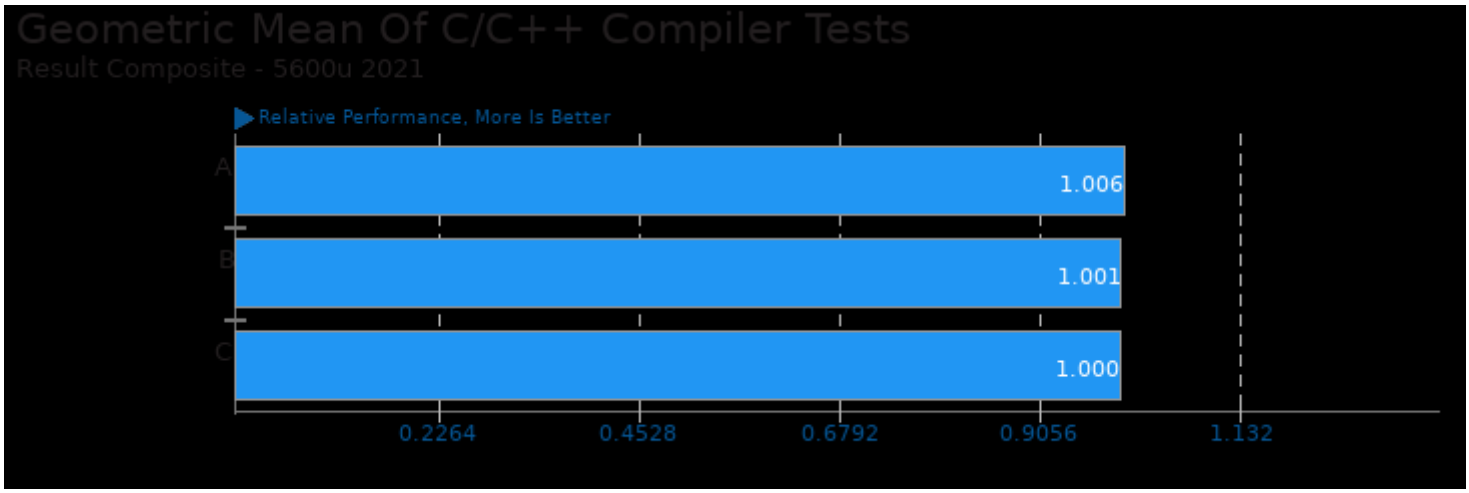

PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.004
B
0.004
SE +/- 0.000, N = 3
C
0.004
SE +/- 0.000, N = 3
0.0009
0.0018
0.0027
0.0036
0.0045
PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.004
B
0.006
SE +/- 0.001, N = 15
C
0.006
SE +/- 0.000, N = 12
0.0014
0.0028
0.0042
0.0056
0.007
PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.013
B
0.013
SE +/- 0.000, N = 15
C
0.013
SE +/- 0.000, N = 15
0.0029
0.0058
0.0087
0.0116
0.0145


PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.054
B
0.056
SE +/- 0.000, N = 3
C
0.054
SE +/- 0.000, N = 3
0.0126
0.0252
0.0378
0.0504
0.063
PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
0.247
B
0.249
SE +/- 0.001, N = 3
C
0.247
SE +/- 0.000, N = 3
0.056
0.112
0.168
0.224
0.28

These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/aom-av1 and pts/rav1e



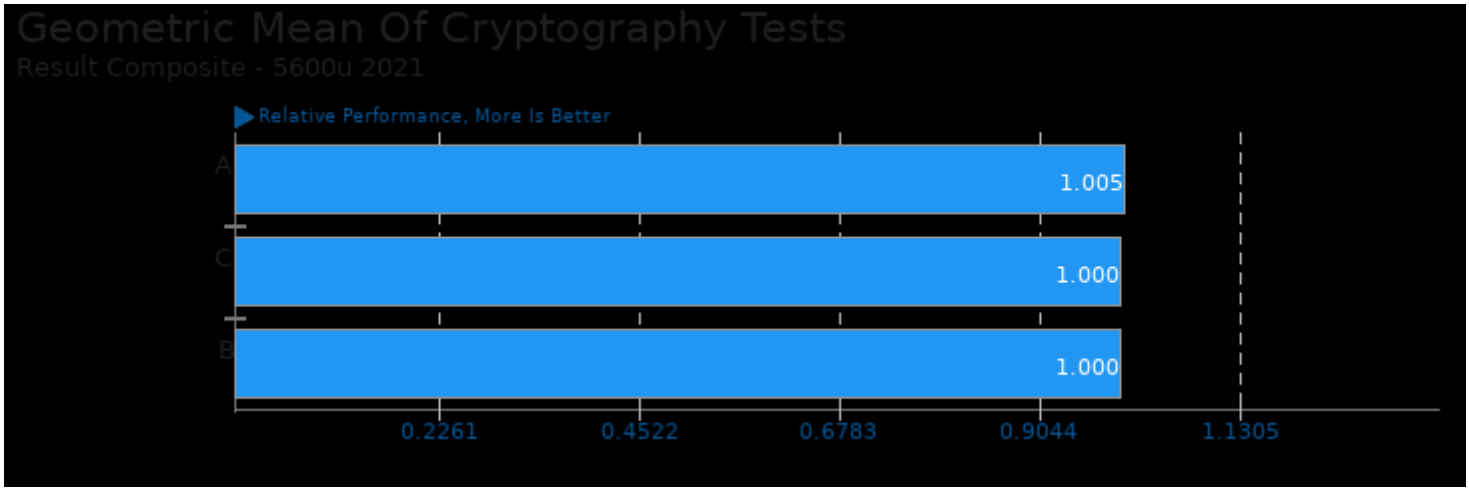
Geometric mean based upon tests: pts/openssl and pts/aom-av1



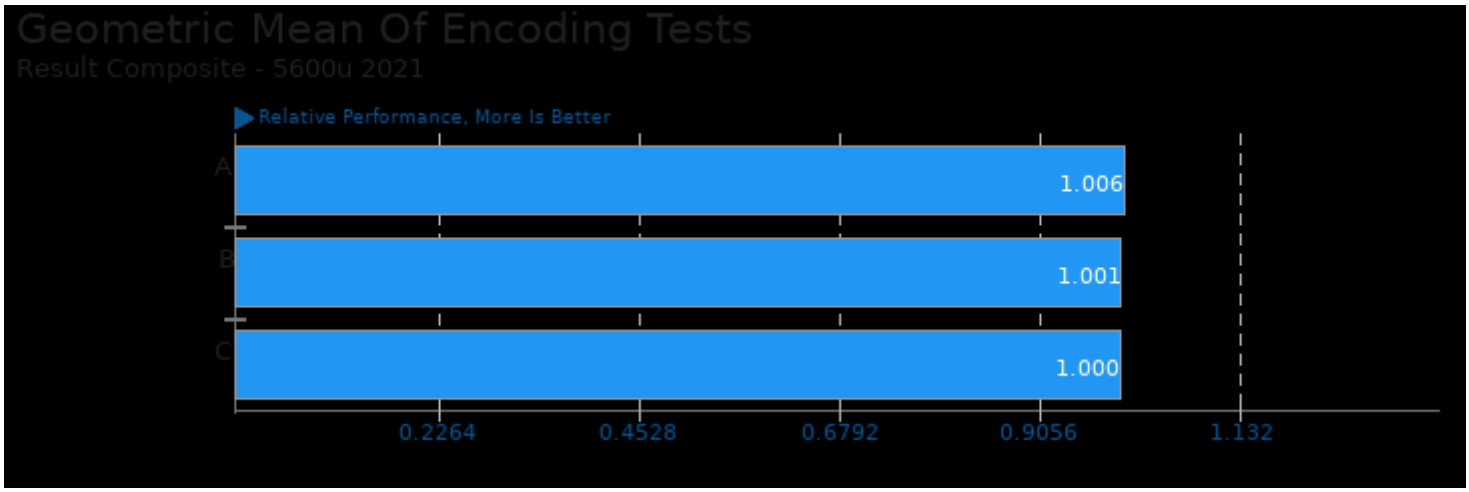
Geometric mean based upon tests: pts/blake2, pts/openssl and pts/sockperf



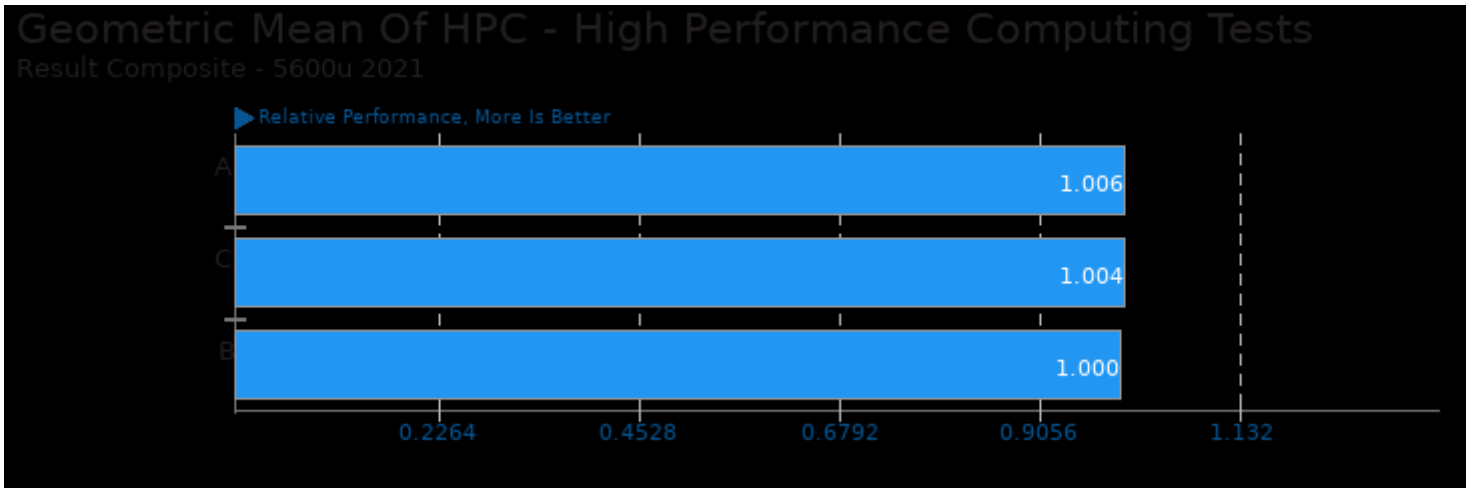
Geometric mean based upon tests: pts/aom-av1, pts/rav1e, pts/jpegxl, pts/jpegxl-decode, system/gimp and pts/astcenc



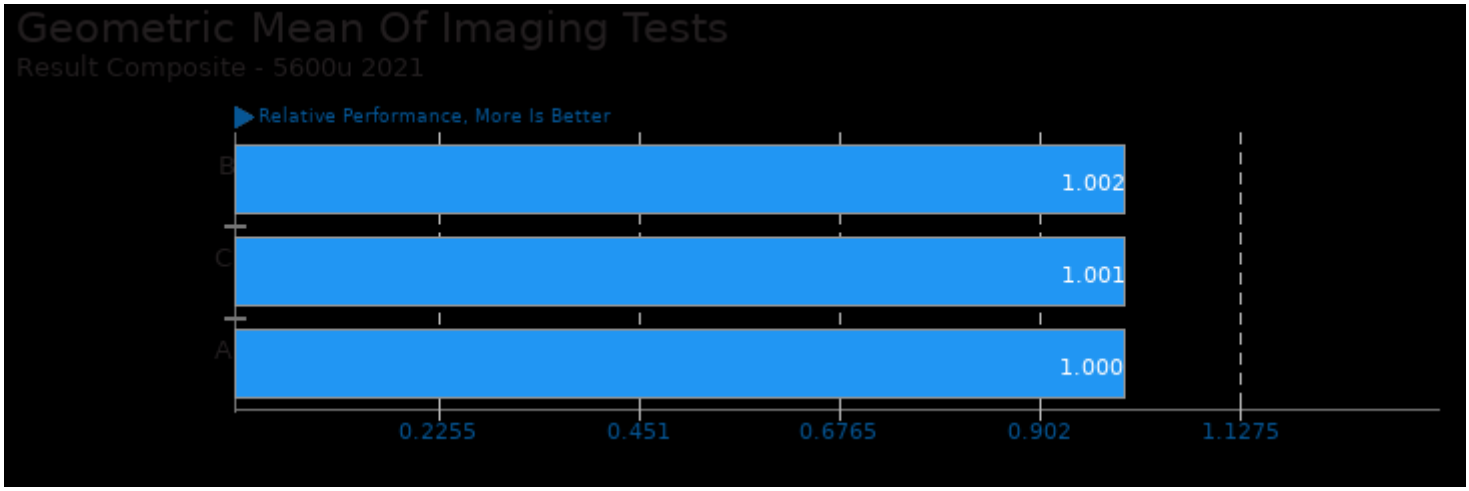
Geometric mean based upon tests: pts/openssl and pts/blake2



Geometric mean based upon tests: pts/aom-av1 and pts/rav1e



Geometric mean based upon tests: pts/onnx and pts/pyhpc



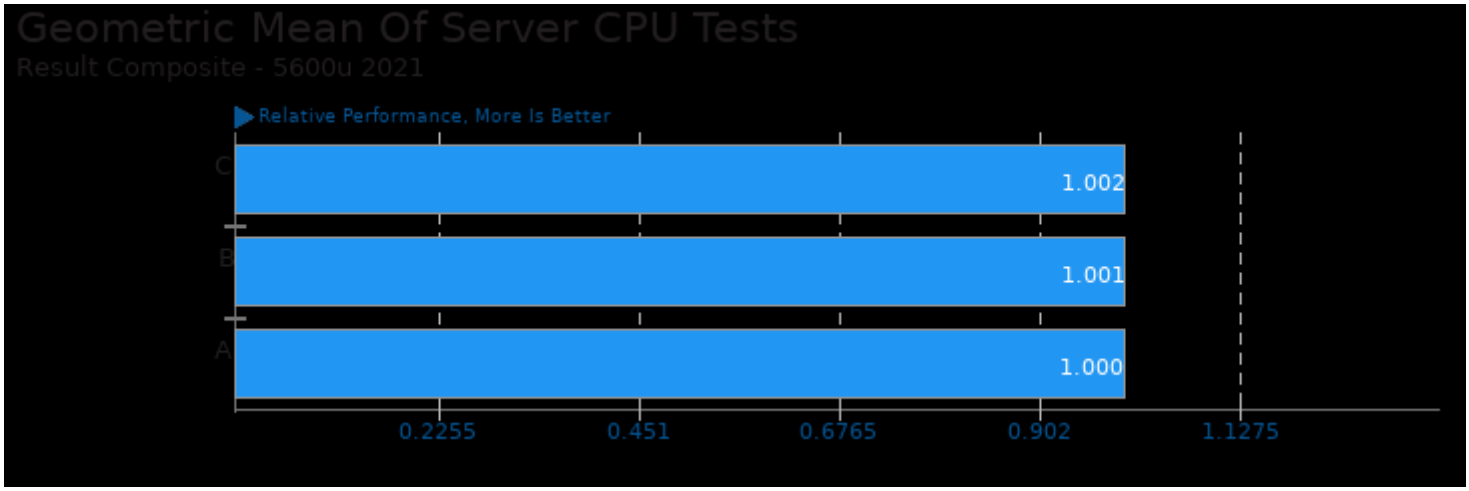
Geometric mean based upon tests: pts/jpegxl, pts/jpegxl-decode and system/gimp



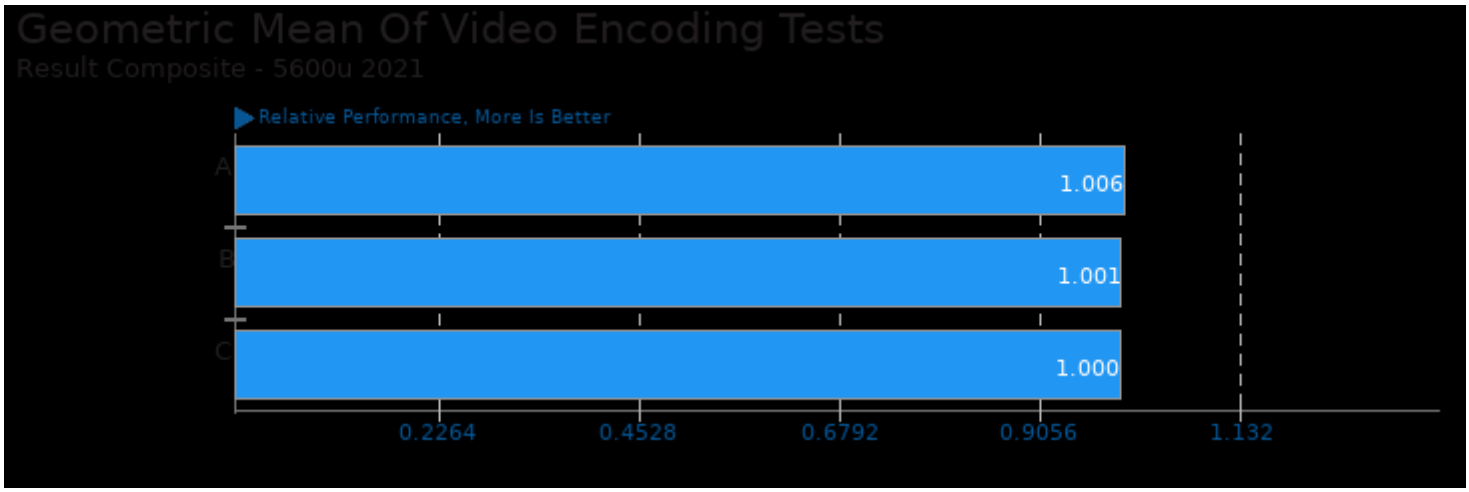
Geometric mean based upon tests: pts/aom-av1 and pts/rav1e



Geometric mean based upon tests: pts/onnx and pts/pyhpc



Geometric mean based upon tests: pts/openssl and system/gimp



Geometric mean based upon tests: pts/aom-av1 and pts/rav1e

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 07:02.