

# Benchmarks

## Benchmarks

Reproducing Results from the Zhong et. al. paper using CitcomS 3.2.0 The following plots are from data generated by CitcomS 3.2.0 on Stampede. Figure numbers correspond to Zhong et al.

Figure 5

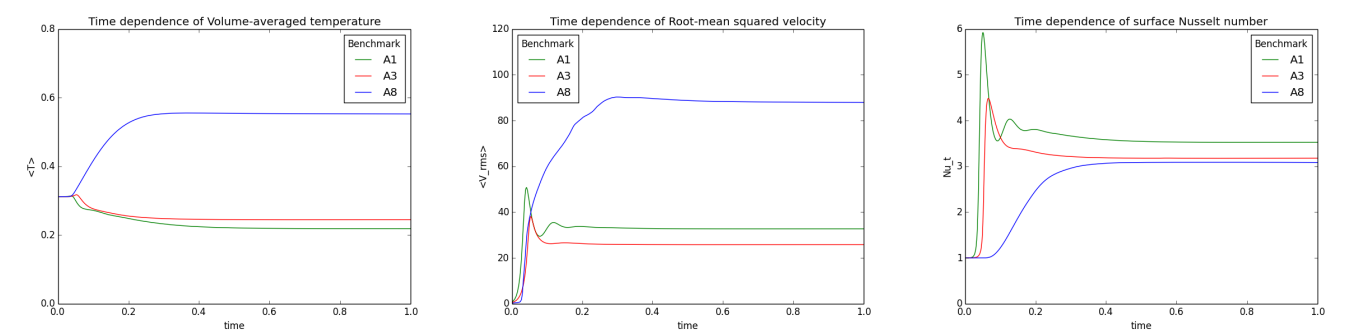
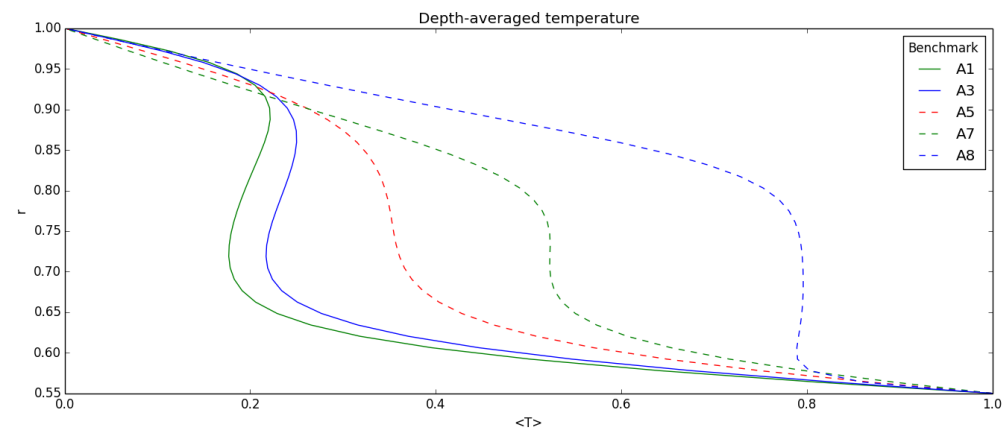


Figure 7(a)



## Comparison of Values from Table 6 of the Zhong et. al. paper

Mean and standard deviations () are computed over the  $t_1, t_2$  ] interval

### A1

Benchmark	t1	t2	$\langle V_{rms} \rangle$	$\langle Nu_t \rangle$	$\langle T \rangle$
A1 (Zhong et. al.)	0.7	1.0	32.66 (6e-4)	3.5126 (2e-4)	0.2171 (2e-5)
A1 (CitcomS 3.2.0)	0.7	1.0	32.68 (4e-3)	3.5263 (4e-4)	0.2187 (6e-5)

## BENCHMARKS

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A1 (Gaia)	?	1.0	32.65	3.5096	0.2160
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### A2

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
A2 (Zhong et. al.)	1.0	1.3	27.36 (1e-4)	3.2674 (1e-5)	0.2360 (3e-7)
A2 (CitcomS 3.2.0)	1.0	1.3	27.33 (6e-3)	3.2831 (1e-3)	0.2381 (1e-4)
A2 (Gaia)	?	1.0	27.19	3.2550	0.2351

### A3

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
A3 (Zhong et. al.)	0.6	0.9	25.85 (1e-3)	3.1724 (3e-4)	0.2432 (3e-5)
A3 (CitcomS 3.2.0)	0.6	0.9	25.77 (1e-3)	3.1768 (3e-4)	0.2447 (3e-5)
A3 (Gaia)	?	1.0	25.65	3.1601	0.2427

### A4

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
A4 (Zhong et. al.)	1.5	2.0	23.11 (3e-4)	2.9354 (4e-5)	0.2653 (2e-6)
A4 (CitcomS 3.2.0)	1.5	2.0	23.01 (5e-3)	2.9175 (1e-3)	0.2659 (2e-5)
A4 (Gaia)	?	1.0	22.90	2.9259	0.2663

### A5

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
A5 (Zhong et. al.)	1.0	1.5	22.90 (3e-3)	2.5468 (5e-4)	0.3124 (1e-5)
A5 (CitcomS 3.2.0)	1.0	1.5	22.86 (3e-2)	2.5380 (7e-4)	0.3126 (7e-5)
A5 (Gaia)	?	1.0	22.77	2.5386	0.3152

### A7

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
A7 (Zhong et. al.)	1.2	1.7	50.21 (8e-3)	2.7382 (5e-4)	0.5039 (1e-4)
A7 (CitcomS 3.2.0)	1.2	1.7	11.09 (5e-2)	1.8972 (5e-3)	0.3870 (3e-4)
A7 (Gaia)	?	5.0	46.83	2.4917	0.4529

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### A8

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
A8 (Zhong et. al.)	0.8	1.0	87.27 (4e-2)	3.0317 (2.8e-3)	0.5461 (1e-4)
A8 (CitcomS 3.2.0)	0.8	1.0	88.01 (2e-2)	3.0889 (1e-3)	0.5530 (1e-4)
A8 (Gaia)	?	4.1	83.35	3.1328	0.5531

**Comparison of Values from Table 7 of the Zhong et. al. paper.**

Mean and standard deviations () are computed over the t1,t2 ] interval

### B1

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T>
B1 (Zhong et. al.)	1.2	1.7	31.09 (1e-4)	3.6254 (1e-5)	0.2176 (6e-7)
B1 (CitcomS 3.2.0)	1.2	1.7	31.02 (1e-14)	3.6212 (2e-6)	0.2171 (3e-16)

### B2

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
B2 (Zhong et. al.)	0.8	1.1	25.13 (7e-5)	3.3721 (2e-5)	0.2527 (2e-6)
B2 (CitcomS 3.2.0)	0.8	1.1	25.09 (2e-4)	3.3677 (2e-5)	0.2525 (5e-6)

### B3

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
B3 (Zhong et. al.)	0.8	1.2	24.35 (8e-5)	3.3162 (2e-5)	0.2587 (2e-6)
B3 (CitcomS 3.2.0)	0.8	1.2	24.32 (5e-5)	3.3122 (2e-5)	0.2586 (3e-6)

### B4

Benchmark	t1	t2	< V_rms >	< Nu_t >	< T >
B4 (Zhong et. al.)	1.0	1.3	22.49 (2e-5)	3.1278 (6e-6)	0.2797 (4e-7)
B4 (CitcomS 3.2.0)	1.0	1.3	22.47 (3e-14)	3.1233 (4e-6)	0.2797 (1e-16)

**Benchmarking Papers**

## BENCHMARKS

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[Zhong et. al. \(2008\)](#)

### **Configuration files used for the Benchmarks**

[a-benchmarks.tgz](#) (998 B , uploaded by Denise Kwong 2 years 6 months ago)