

		Water (Fig. 3)		Water (Fig. 9)		Smoke (Fig. 4)		Smoke (Fig. 1; right)	Smoke (Fig. 1; left)
		Active DOFs: 114M		Active DOFs: 70M		Active DOFs: 42M		1.2G DOFs	1.8G DOFs
		GPU	Phi	GPU	Phi	GPU	Phi	GPU	Phi
Number of subdomains		16		16		4		16	40
Subdomain resolution		128 x 128 x 768		128 x 128 x 768		512 x 512 x 512		512 x 512 x 512	1536 x 1536 x 1920
DDPCG total solve time		51.894	44.532	61.446	42.882	38.472	25.704	1790.11	4247.98
DDPCG iteration cost		5.766	4.948	4.389	3.063	1.603	1.071	100.49	193.09
Preconditioner Application		4.291	4.314	3.657	2.769	0.999	0.843	88.9341	183.9
Subdomain Solve (3 V-cycles)		1.362	1.249	1.046	0.865	0.457	0.351	26.4284	152.79
Each MG V-cycle		0.378	0.311	0.311	0.218	0.115	0.079	2.68	21.83
Data transfer from/to CPU		0.158	0.309	0.084	0.169	0.103	0.105	7.6252	16.002
Interface Solve (1 V-cycle)		1.392	1.539	1.214	1.096	0.029	0.032	33.042	14.3918
Smoothing (Top-Level)		0.413	0.349	0.314	0.215	0.006	0.003	7.864	3.741
Restriction/Prolongation		0.008	0.012	0.008	0.007	0.00013	0.0002	0.145	0.094
ICPCG iteration cost (CPU only)			4.16		2.82		1.32	N/A	N/A
MGPCG iteration cost (GPU only)		0.424		0.316		0.1736		N/A	N/A
MGPCG solve time (GPU only)		10.1838		17.679		7.983		N/A	N/A
MGPCG iteration cost (CPU only)			5.55		3.135		4.489	67.28	175.4
MGPCG solve time (CPU only)			127.65		153.5933		218.64	3902.8062	16742