	Solver	LU D	LU S	GM S D	GM S S	LU D	LU S	GM S D	GM S S	LU D	LU S	GM S D	GM S S
	u_f	D	S	S	S	D	S	S	S	D	S	S	S
	$u_p=u_g$	—	—	D	S	—	—	D	S	—	—	D	S
ID	τ_b		Time (s)				Memory (GB)				Nb LU solves		
ElectroPhys10M	full-rank	265.2	154.0	166.5	163.3	272.0	138.0	171.3	138.0	1	3	5	7
	1E-10	101.0	**70.5**	73.7	72.7	158.0	84.5	84.6	84.6	2	3	5	7
	1E-08	93.1	**70.0**	72.8	72.1	157.0	80.6	82.2	82.2	2	3	5	7
	1E-06	91.1	**64.9**	**68.2**	**68.5**	149.0	**77.8**	79.6	79.6	3	3	6	10
	1E-04	88.3	**66.3**	**69.3**	**70.8**	143.0	**73.6**	**77.0**	**77.0**	4	4	7	13
	1E-02	89.8	71.4	75.0	128.1	147.0	**73.6**	**73.6**	**73.6**	9	9	11	125
	1E-01	97.8	73.6	81.0	119.5	147.0	**71.8**	**73.4**	**73.4**	19	18	24	115
DrivAer6M	full-rank	91.8	67.6	77.9	77.4	81.6	41.7	52.9	41.7	1	3	5	7
	1E-10	55.6	**43.7**	46.5	46.9	54.5	28.2	28.2	28.2	2	6	7	10
	1E-08	54.3	**42.2**	44.8	**46.1**	51.9	26.9	26.9	26.9	4	6	7	11
	1E-06	62.6	47.8	**44.7**	**45.8**	49.3	25.5	25.5	25.5	15	15	9	13
	1E-04	—	—	73.2	106.2	—	—	**24.0**	**24.0**	—	—	45	95
	1E-02	—	—	248.4	404.3	—	—	**22.7**	**22.7**	—	—	256	502
	1E-01	—	—	471.3	1490.4	—	—	**22.4**	41.0	—	—	528	1997
tminlet3M	full-rank	294.5	136.2	157.9	176.3	241.0	121.0	169.9	121.0	1	7	15	56
	1E-10	232.9	158.8	174.0	181.2	188.0	118.0	169.9	118.0	2	7	16	55
	1E-08	204.9	149.7	165.3	182.7	171.0	114.0	161.9	114.0	3	7	17	79
	1E-06	179.0	**88.3**	98.8	105.5	154.0	82.4	93.8	82.8	5	7	16	54
	1E-04	—	—	105.6	116.3	—	—	**70.9**	**70.9**	—	—	69	181
perf009ar	full-rank	46.1	57.5	52.0	110.0	55.6	28.9	38.1	28.9	1	28	16	92
	1E-10	**32.9**	40.3	36.9	83.1	38.7	20.5	25.6	20.5	2	22	15	94
	1E-08	**33.6**	41.5	37.3	88.0	37.1	**19.7**	22.8	**19.7**	4	26	16	107
	1E-06	—	—	40.9	187.8	—	—	**20.0**	18.6	—	—	25	280
	1E-04	—	—	658.3	—	—	—	36.6	—	—	—	949	—
	1E-02	—	—	2224.1	—	—	—	98.1	—	—	—	3338	—
elasticity-3d	full-rank	156.7	—	118.6	—	153.0	—	103.6	—	1	—	11	—
	1E-10	110.2	—	82.3	—	95.5	—	72.1	—	2	—	10	—
	1E-08	96.3	—	68.6	—	91.6	—	56.8	—	5	—	10	—
	1E-06	—	—	**57.9**	—	—	—	44.1	—	—	—	13	—
	1E-04	—	—	125.3	—	—	—	**39.0**	—	—	—	121	—
lfm_aug5M	full-rank	536.2	254.5	269.3	353.6	312.0	157.0	187.5	157.0	1	4	5	46
	1E-10	313.3	199.8	210.0	230.9	240.0	141.0	147.6	144.0	2	4	7	37
	1E-08	260.2	119.2	130.1	162.3	218.0	112.0	116.0	116.0	3	4	9	60
	1E-06	223.2	**100.4**	110.1	131.3	199.0	107.0	107.0	107.0	4	4	9	47
	1E-04	212.3	**95.8**	105.4	124.7	200.0	**101.0**	**103.0**	**103.0**	22	20	19	65
	1E-02	—	—	482.6	1111.0	—	—	**96.8**	**96.8**	—	—	367	1763
CarBody25M	full-rank	**62.9**	—	109.8	—	77.6	—	54.3	—	1	—	24	—
	1E-10	**63.3**	—	90.8	—	65.5	—	**44.0**	—	3	—	23	—
	1E-08	**68.9**	—	91.3	—	64.8	—	**41.8**	—	6	—	23	—
	1E-06	—	—	299.4	—	—	—	55.8	—	—	—	140	—
thmgas	full-rank	97.6	**65.4**	79.8	79.6	192.0	97.7	141.7	97.7	1	4	7	10
	1E-10	88.9	**63.7**	75.8	69.5	137.0	70.9	110.5	71.0	2	4	7	7
	1E-08	81.3	**59.5**	66.1	66.7	131.0	67.5	92.1	67.6	3	4	7	7
	1E-06	85.1	**61.4**	65.6	70.8	118.0	61.4	70.4	61.5	8	8	9	13
	1E-04	—	—	147.5	131.4	—	—	53.7	53.7	—	—	53	48
	1E-02	—	—	1043.9	2380.8	—	—	**45.5**	**45.5**	—	—	523	1259
	1E-01	—	—	3340.5	3155.2	—	—	48.9	**43.7**	—	—	1399	1649