

# StokesApplicationWithExactSolution

## CompareMethods

June 20, 2023

ncells	setMesh(%)	rhs(%)	solve_linear(%)	postp(%)	sum
14	0.00	0.99	96.97	2.04	5.16e-01
42	0.00	1.52	96.61	1.87	5.10e-01
162	0.00	2.53	95.18	2.30	6.64e-01
614	0.00	4.45	92.69	2.86	9.95e-01
2398	0.00	4.85	92.68	2.47	2.82e+00
9522	0.00	4.49	93.01	2.50	1.11e+01

Table 1: timer-

ncells	
14	0.52
42	0.51
162	0.66
614	0.99
2398	2.82
9522	11.11

Table 2: timer

ncells	nonlin-	lin-
14	6	3.33
42	5	4.00
162	7	3.00
614	7	2.57
2398	6	4.67
9522	8	5.12

Table 3: iter

ncells		-o
14	7.75e-01	0.00
42	4.15e-01	1.14
162	9.83e-02	2.13
614	2.50e-02	2.06
2398	6.22e-03	2.04
9522	1.54e-03	2.03

Table 4: errorVL2

ncells		-o
14	5.57	0.00
42	2.11	1.77
162	0.77	1.49
614	0.30	1.40
2398	0.14	1.18
9522	0.06	1.11

Table 5: errorPL2

ncells		-d	-d-o
14	-1.34	0.00e+00	0.00
42	-0.79	5.56e-01	0.00
162	-0.96	1.72e-01	1.74
614	-0.98	2.15e-02	3.12
2398	-1.00	1.34e-02	0.69
9522	-1.00	3.43e-03	1.98

Table 6: bdrypmean

ncells		-d	-d-o
14	0.00e+00	0.00e+00	0.00
42	0.00e+00	0.00e+00	0.00
162	0.00e+00	0.00e+00	0.00
614	0.00e+00	0.00e+00	0.00
2398	0.00e+00	0.00e+00	0.00
9522	0.00e+00	0.00e+00	0.00

Table 7: bdryvmean0

ncells		-d	-d-o
14	0.00e+00	0.00e+00	0.00
42	0.00e+00	0.00e+00	0.00
162	0.00e+00	0.00e+00	0.00
614	0.00e+00	0.00e+00	0.00
2398	0.00e+00	0.00e+00	0.00
9522	0.00e+00	0.00e+00	0.00

Table 8: bdryvmean1

ncells		-d	-d-o
14	1.37	0.00e+00	0.00
42	2.04	6.70e-01	0.00
162	1.46	5.82e-01	0.21
614	1.22	2.40e-01	1.33
2398	1.16	5.90e-02	2.06
9522	1.15	1.35e-02	2.13

Table 9: bdrynflux1000

ncells		-d	-d-o
14	3.10	0.00e+00	0.00
42	5.29	2.18e+00	0.00
162	5.28	8.42e-03	8.23
614	5.16	1.19e-01	-3.97
2398	5.14	1.57e-02	2.97
9522	5.14	1.07e-03	3.89

Table 10: bdrynflux1001

ncells		-d	-d-o
14	-0.22	0.00e+00	0.00
42	-2.29	2.06e+00	0.00
162	-1.47	8.20e-01	1.37
614	-1.22	2.49e-01	1.79
2398	-1.16	5.59e-02	2.20
9522	-1.15	1.40e-02	2.00

Table 11: bdrynflux1002

ncells		-d	-d-o
14	-4.06	0.00e+00	0.00
42	-5.25	1.20e+00	0.00
162	-5.28	2.41e-02	5.78
614	-5.16	1.17e-01	-2.37
2398	-5.14	1.91e-02	2.67
9522	-5.14	5.87e-04	5.05

Table 12: bdrynflux1003