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Problem	Mesh Size	No. of Eqns	No. of unknowns	r (AMG) Preconditioned / True	r (LU) Preconditioned / True
case1c	34x42	5 (ni,up, te,ti,ng)	7140	0 KSP: 2.2e-02 / 3.0e-10 AveConvFactor: 14117968.0	0 KSP: 4.1e-09 / 3.0e-10 1 KSP: 1.0e-13 / 2.1e-14
case1d	34x42	1 (ng)	1428	0 KSP: 1.0e+02 / 1.2e+00 AveConvFactor: 0.016196 4 KSP: 2.2e-03 / 3.1e-05	0 KSP: 1.0e+02 / 1.2e+00 1 KSP: 6.2e-07 / 7.5e-07
case1e	34x42	5 (ni,up, te,ti,ng)	7140	0 KSP: 2.3e+05 / 6.1e+00 AveConvFactor: 7119.1 7 KSP: 2.0e+01 / 5.3e+00 Diverge BlockSize = 5: 9 KSP: 1.240947158231e+02 / 7.3e+00 AveConvFactor: 4213.1 and larger	0 KSP: 6.4e+01 / 6.1e+00 1 KSP: 4.0e-03 / 1.7e-04
case1d2	34x42	3 (te,ti ng)	4284	0 KSP: 3.2e+14 / 3.9e+00 AveConvFactor: 3518244338930.9 3 KSP: 3.4e+08 / 3.9e+00 Diverge BlockSize = 3: 0 KSP: 1.218792323673e+17 / 3.9e+00 1 KSP: 4.573440765757e+12 / 3.9e+00 AveConvFactor: 8.6e+14–4.1e+16 Still diverge	0 KSP: 3.5e+01 / 3.9e+00 1 KSP: 2.0e-04 / 6.0e-06
case1d3	34x42	3 (ni,up, ng)	4284	0 KSP: 7.2e+00 / 1.3e+00 AveConvFactor: ranges from 0.099953 - 0.305982 189 KSP: 7.2e-04 / 1.1e-04 conv. very slow or diverge BlockSize = 3: 16 KSP: 6.7e-03 / 1.6e-04 AveConvFactor: 0.04–5.1 9 SNES Function norm 6.2e-11 Conv!	0 KSP: 1.2e+02 / 1.3e+00 1 KSP: 2.3e-04 / 4.1e-05
case1d4	34x42	5 (ni,up, te,ti,ng)	7140	0 KSP: 1.1e+05 / 3.9e+00 AveConvFactor: ranges from 1890.5 - 486855.3 13 KSP: 9.3e+00 / 2.0e+00 Diverge BlockSize = 5: 0 KSP: 1.640473406359e+17 / 3.9e+00 1 KSP: 1.671696840130e+11 / 5.0e+00 AveConvFactor: 2.3e+15	0 KSP: 4.4e+01 / 3.9e+00 1 KSP: 4.9e-03 / 2.4e-04 2 KSP: 8.0e-08 / 9.8e-06
case1d5			1428	0 KSP: 7.6e+00 / 3.5e-01 AveConvFactor:	0 KSP: 7.7e+00 / 3.5e-01 1 KSP: 4.6e-06 / 5.3e-06

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				0.028471 - 0.054000 3 KSP: 1.0e-04 / 1.2e-05 5 SNES: 3.2e-12	5 SNES Function norm 5.7e-12
case1d6			1428	0 KSP: 3.4e+01 / 3.7e+00 AveConvFactor: 0.019369 - 2.059262 (all KSP iterations in the order of 0.01 except 2 iterations have AveConvFactor larger than 1.0) 3 KSP: 3.4e-03 / 5.2e-04 5 SNES Function norm 3.6e-14	0 KSP: 3.6e+01 / 3.7e+00 1 KSP: 3.1e-05 / 8.1e-06 5 SNES Function norm 5.3e-14

Test results of PETSc-Uedge SNES Solver. Dec 20, 2007