

CIR Process	Mean error in α (RMS error in α)	Mean error in β (RMS error in β)	Mean error in σ (RMS error in σ)	Time (sec)
EML	0.5227 (0.7093)	0.0018 (0.0439)	0.0001 (0.0032)	0.0544
DML	0.5145 (0.6969)	0.0028 (0.0435)	-0.0006 (0.0032)	0.0046
DML-SO	0.5239 (0.7105)	0.0028 (0.0432)	0.0001 (0.0032)	0.0158
PDE	0.5259 (0.7121)	0.0018 (0.0439)	0.0001 (0.0032)	7.8848
SML-IS-EUL	0.5238 (0.7092)	0.0032 (0.0444)	0.0000 (0.0032)	17.3325
SML-IS-SO	0.5238 (0.7102)	0.0030 (0.0442)	0.0001 (0.0032)	27.0881
SML-KD	0.5249 (0.7308)	0.0181 (0.1571)	-0.0009 (0.0040)	5.3583
FHPE	0.5266 (0.7117)	0.0029 (0.0439)	0.0001 (0.0032)	0.0343
IHPE	0.5267 (0.7118)	0.0028 (0.0439)	0.0001 (0.0032)	0.0520
GMM	0.5387 (0.7182)	0.0219 (0.3200)	-0.0009 (0.0034)	0.0080
CF	0.4802 (0.6849)	0.0464 (0.5268)	-0.0002 (0.0035)	0.0595
IE	0.5299 (0.7126)	0.0039 (0.0467)	0.0000 (0.0032)	2.3605
EF	0.5335 (0.7157)	0.0031 (0.0454)	0.0001 (0.0032)	0.0157
MCMC	0.5346 (0.7128)	0.0033 (0.0491)	0.0002 (0.0033)	11.4913

Table 1: Bias and RMSE of parameter estimates for the CIR process $dX = \alpha(\beta - X)dt + \sigma X^{1/2}dW$ over 2000 repetitions of the experiment. Samples of 500 observations were generated using the Milstein scheme and an observation frequency of $\Delta = 1/52$. RMSEs are shown in parentheses.

OU Process	Mean error in α (RMS error in α)	Mean error in β (RMS error in β)	Mean error in σ (RMS error in σ)	Time (sec)
EML	0.5394 (0.7284)	0.0070 (0.0467)	0.0001 (0.0010)	0.0022
DML	0.5312 (0.7161)	0.0067 (0.0445)	-0.0002 (0.0010)	0.0021
DML-SO	0.5394 (0.7284)	0.0070 (0.0467)	0.0001 (0.0010)	0.0044
PDE	0.5413 (0.7304)	0.0065 (0.0436)	-0.0001 (0.0010)	6.6419
SML-IS-EUL	0.5405 (0.7293)	0.0071 (0.0467)	0.0000 (0.0010)	16.1763
SML-IS-SO	0.5414 (0.7303)	0.0066 (0.0447)	0.0001 (0.0010)	23.0431
SML-KD	0.5344 (0.7500)	0.0219 (0.2584)	-0.0002 (0.0012)	1.8556
FHPE	0.5395 (0.7284)	0.0070 (0.0476)	0.0001 (0.0010)	0.0246
IHPE	0.5394 (0.7283)	0.0070 (0.0476)	0.0001 (0.0010)	0.0363
GMM	0.5368 (0.7237)	0.0102 (0.1683)	-0.0003 (0.0010)	0.0092
CF	0.5933 (0.7878)	0.0239 (0.6498)	-0.0004 (0.0011)	0.1675
IE	0.5433 (0.7289)	0.0069 (0.0460)	0.0000 (0.0010)	1.0727
EF	0.5471 (0.7333)	0.0073 (0.0513)	0.0001 (0.0010)	0.0144
MCMC	0.5491 (0.7326)	0.0015 (0.2387)	0.0001 (0.0010)	7.5321

Table 2: Bias and RMSE of parameter estimates for the OU process $dX = \alpha(\beta - X)dt + \sigma dW$ over 2000 repetitions of the experiment. Samples of 500 observations were generated using the Milstein scheme and an observation frequency of $\Delta = 1/52$. RMSEs are shown in parentheses.

CIR Process	Mean error in α (RMS error in α)	Mean error in β (RMS error in β)	Mean error in σ (RMS error in σ)	Time (sec)
EML	0.0091 (0.0346)	0.0002 (0.0063)	0.0001 (0.0034)	0.0482
DML	-0.0116 (0.0308)	0.0002 (0.0063)	-0.0075 (0.0082)	0.0026
DML-SO	-0.0025 (0.0327)	-0.0014 (0.0064)	-0.0006 (0.0034)	0.0094
PDE	0.0089 (0.0344)	0.0002 (0.0063)	0.0000 (0.0034)	9.7525
SML-IS-EUL	0.0074 (0.0335)	0.0002 (0.0063)	-0.0013 (0.0035)	11.3774
SML-IS-SO	0.0082 (0.0343)	0.0001 (0.0063)	0.0001 (0.0034)	17.6889
SML-KD	0.0072 (0.0397)	0.0044 (0.0092)	-0.0016 (0.0052)	3.6569
FHPE	0.0106 (0.0377)	0.0003 (0.0063)	0.0001 (0.0034)	0.0193
IHPE	0.0097 (0.0355)	0.0002 (0.0063)	0.0001 (0.0034)	0.0304
GMM	-0.0156 (0.0342)	-0.0003 (0.0064)	-0.0094 (0.0100)	0.0041
CF	0.0058 (0.0371)	-0.0003 (0.0063)	-0.0005 (0.0043)	0.0342
IE	0.0070 (0.0357)	0.0002 (0.0063)	-0.0008 (0.0037)	1.7472
EF	0.0091 (0.0346)	0.0002 (0.0063)	0.0001 (0.0036)	0.0177
MCMC	0.0076 (0.0334)	0.0002 (0.0063)	-0.0022 (0.0039)	8.9321

Table 3: Bias and RMSE of parameter estimates for the CIR process $dX = \alpha(\beta - X)dt + \sigma X^{1/2}dW$ over 2000 repetitions of the experiment. Samples of 500 observations were generated using the Milstein scheme and an observation frequency of $\Delta = 1$. RMSEs are shown in parentheses.

OU Process	Mean error in α (RMS error in α)	Mean error in β (RMS error in β)	Mean error in σ (RMS error in σ)	Time (sec)
EML	0.0095 (0.0342)	0.0003 (0.0067)	0.0000 (0.0010)	0.0014
DML	-0.0114 (0.0288)	0.0003 (0.0067)	-0.0029 (0.0030)	0.0014
DML-SO	0.0095 (0.0342)	0.0003 (0.0067)	0.0000 (0.0010)	0.0029
PDE	0.0092 (0.0340)	0.0003 (0.0067)	0.0000 (0.0010)	10.0070
SML-IS-EUL	0.0072 (0.0330)	0.0003 (0.0067)	-0.0003 (0.0010)	10.1947
SML-IS-SO	0.0095 (0.0342)	0.0003 (0.0067)	0.0000 (0.0010)	14.6990
SML-KD	0.0069 (0.0367)	0.0002 (0.0074)	-0.0006 (0.0013)	1.2360
FHPE	0.0094 (0.0343)	0.0003 (0.0067)	0.0000 (0.0010)	0.0139
IHPE	0.0095 (0.0342)	0.0003 (0.0067)	0.0000 (0.0010)	0.0221
GMM	-0.0115 (0.0289)	0.0003 (0.0067)	-0.0029 (0.0031)	0.0037
CF	0.0195 (0.0412)	0.0003 (0.0069)	-0.0003 (0.0011)	0.0787
IE	0.0071 (0.0332)	0.0003 (0.0067)	-0.0003 (0.0010)	0.7925
EF	0.0095 (0.0342)	0.0003 (0.0067)	0.0000 (0.0010)	0.0196
MCMC	0.0066 (0.0324)	0.0003 (0.0067)	-0.0005 (0.0011)	7.4158

Table 4: Bias and RMSE of parameter estimates for the OU process $dX = \alpha(\beta - X)dt + \sigma dW$ over 2000 repetitions of the experiment. Samples of 500 observations were generated using the Milstein scheme and an observation frequency of $\Delta = 1$. RMSEs are shown in parentheses.