mcmcdiagnostics(model20.mle)

Sample statistics summary:

Iterations = 16384:67124224

Thinning interval = 1024

Number of chains = 8

Sample size per chain = 65536

1. Empirical mean and standard deviation for each variable,

plus standard error of the mean:

Mean SD Naive SE Time-series SE

edges 309.89 474.18 0.6549 39.266

nodecov.salience -14.16 195.44 0.2699 20.580

nodecov.year.center 760.24 1142.56 1.5780 97.129

absdiff.year.center 73.53 115.67 0.1598 7.199

absdiff.year.center.square 178.05 282.44 0.3901 17.638

dsp0 -7744.79 19534.54 26.9785 1915.739

esp0 -3.58 84.18 0.1163 1.829

2. Quantiles for each variable:

2.5% 25% 50% 75% 97.5%

edges -822.0 2.800e+01 336.00 643.0 1152.0

nodecov.salience -377.0 -1.420e+02 -14.00 114.0 388.0

nodecov.year.center -2025.4 1.274e+02 808.35 1519.8 2842.9

absdiff.year.center -157.7 2.284e-01 63.83 143.3 320.0

absdiff.year.center.square -392.5 4.999e+00 153.25 347.8 784.9

dsp0 -40947.0 -2.067e+04 -10115.00 3208.0 41865.0

esp0 -168.0 -6.100e+01 -4.00 54.0 160.0

Sample statistics cross-correlations:

edges nodecov.salience nodecov.year.center

edges 1.0000000 0.41185927 0.9897627

nodecov.salience 0.4118593 1.00000000 0.4030814

nodecov.year.center 0.9897627 0.40308139 1.0000000

absdiff.year.center 0.8671089 0.37225669 0.8661156

absdiff.year.center.square 0.8590647 0.36251326 0.8691620

dsp0 -0.8831260 -0.72209995 -0.8889238

esp0 0.1289780 0.04208284 0.1221376

absdiff.year.center absdiff.year.center.square

edges 0.8671089 0.8590647

nodecov.salience 0.3722567 0.3625133

nodecov.year.center 0.8661156 0.8691620

absdiff.year.center 1.0000000 0.9955887

absdiff.year.center.square 0.9955887 1.0000000

dsp0 -0.7786636 -0.7759657

esp0 0.1062389 0.1008445

dsp0 esp0

edges -0.88312601 0.12897801

nodecov.salience -0.72209995 0.04208284

nodecov.year.center -0.88892382 0.12213755

absdiff.year.center -0.77866357 0.10623885

absdiff.year.center.square -0.77596568 0.10084449

dsp0 1.00000000 -0.09096922

esp0 -0.09096922 1.00000000

Sample statistics auto-correlation:

Chain 1

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9990931 0.9997011 0.9991630 0.9988282

Lag 2048 0.9981881 0.9994033 0.9983271 0.9976772

Lag 3072 0.9972924 0.9991071 0.9974986 0.9965295

Lag 4096 0.9964048 0.9988120 0.9966779 0.9953833

Lag 5120 0.9955224 0.9985210 0.9958615 0.9942426

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9987920 0.9994666 0.9920705

Lag 2048 0.9976057 0.9989353 0.9841619

Lag 3072 0.9964213 0.9984087 0.9763564

Lag 4096 0.9952383 0.9978841 0.9686519

Lag 5120 0.9940598 0.9973640 0.9610509

Chain 2

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9988021 0.9992702 0.9988371 0.9985953

Lag 2048 0.9976252 0.9985412 0.9976941 0.9972093

Lag 3072 0.9964592 0.9978098 0.9965602 0.9958484

Lag 4096 0.9953022 0.9970904 0.9954363 0.9944974

Lag 5120 0.9941324 0.9963805 0.9943013 0.9931532

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9987829 0.9993668 0.9919990

Lag 2048 0.9975813 0.9987368 0.9841669

Lag 3072 0.9964004 0.9981101 0.9763344

Lag 4096 0.9952292 0.9974880 0.9685978

Lag 5120 0.9940640 0.9968634 0.9608298

Chain 3

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9993423 0.9995857 0.9994105 0.9990242

Lag 2048 0.9986849 0.9991725 0.9988204 0.9980401

Lag 3072 0.9980293 0.9987649 0.9982332 0.9970695

Lag 4096 0.9973794 0.9983636 0.9976512 0.9960949

Lag 5120 0.9967305 0.9979651 0.9970698 0.9951184

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9990519 0.9989770 0.9921212

Lag 2048 0.9980947 0.9979522 0.9841968

Lag 3072 0.9971510 0.9969371 0.9763727

Lag 4096 0.9962041 0.9959303 0.9686606

Lag 5120 0.9952550 0.9949263 0.9610057

Chain 4

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9997750 0.9997844 0.9997844 0.9995722

Lag 2048 0.9995532 0.9995703 0.9995722 0.9991446

Lag 3072 0.9993308 0.9993562 0.9993594 0.9987175

Lag 4096 0.9991098 0.9991435 0.9991480 0.9982943

Lag 5120 0.9988876 0.9989315 0.9989358 0.9978673

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9995961 0.9998145 0.9920946

Lag 2048 0.9991925 0.9996315 0.9843206

Lag 3072 0.9987900 0.9994478 0.9766131

Lag 4096 0.9983913 0.9992638 0.9689693

Lag 5120 0.9979888 0.9990789 0.9613251

Chain 5

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9996983 0.9998092 0.9997170 0.9993020

Lag 2048 0.9993980 0.9996183 0.9994355 0.9986069

Lag 3072 0.9991030 0.9994309 0.9991592 0.9979196

Lag 4096 0.9988115 0.9992454 0.9988857 0.9972430

Lag 5120 0.9985176 0.9990592 0.9986101 0.9965622

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9993524 0.9998093 0.9927828

Lag 2048 0.9987074 0.9996187 0.9856356

Lag 3072 0.9980703 0.9994322 0.9785173

Lag 4096 0.9974424 0.9992490 0.9715086

Lag 5120 0.9968119 0.9990653 0.9644930

Chain 6

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9991573 0.9996774 0.9991536 0.9982893

Lag 2048 0.9983104 0.9993570 0.9983032 0.9965694

Lag 3072 0.9974548 0.9990372 0.9974445 0.9948411

Lag 4096 0.9966072 0.9987223 0.9965936 0.9931175

Lag 5120 0.9957660 0.9984063 0.9957475 0.9914244

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9981367 0.9994387 0.9920226

Lag 2048 0.9962651 0.9988795 0.9839743

Lag 3072 0.9943858 0.9983143 0.9758146

Lag 4096 0.9925090 0.9977609 0.9677262

Lag 5120 0.9906650 0.9972036 0.9597888

Chain 7

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9994209 0.9992667 0.9993386 0.9993522

Lag 2048 0.9988397 0.9985394 0.9986761 0.9987053

Lag 3072 0.9982675 0.9978179 0.9980242 0.9980637

Lag 4096 0.9976900 0.9971005 0.9973670 0.9974150

Lag 5120 0.9971210 0.9963846 0.9967168 0.9967707

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9993054 0.9992407 0.9916382

Lag 2048 0.9986122 0.9984803 0.9833133

Lag 3072 0.9979250 0.9977325 0.9750980

Lag 4096 0.9972309 0.9969780 0.9667770

Lag 5120 0.9965397 0.9962293 0.9586563

Chain 8

edges nodecov.salience nodecov.year.center absdiff.year.center

Lag 0 1.0000000 1.0000000 1.0000000 1.0000000

Lag 1024 0.9994585 0.9994921 0.9994483 0.9995881

Lag 2048 0.9989176 0.9989838 0.9988988 0.9991726

Lag 3072 0.9983758 0.9984767 0.9983497 0.9987570

Lag 4096 0.9978381 0.9979774 0.9978037 0.9983448

Lag 5120 0.9973020 0.9974855 0.9972600 0.9979331

absdiff.year.center.square dsp0 esp0

Lag 0 1.0000000 1.0000000 1.0000000

Lag 1024 0.9995778 0.9993820 0.9918539

Lag 2048 0.9991528 0.9987671 0.9836329

Lag 3072 0.9987279 0.9981564 0.9753862

Lag 4096 0.9983067 0.9975508 0.9672974

Lag 5120 0.9978862 0.9969498 0.9592826

Sample statistics burn-in diagnostic (Geweke):

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

5.1487 5.3468

nodecov.year.center absdiff.year.center

5.5856 1.3264

absdiff.year.center.square dsp0

1.8793 -4.3731

esp0

-0.2611

Individual P-values (lower = worse):

edges nodecov.salience

2.622937e-07 8.952773e-08

nodecov.year.center absdiff.year.center

2.328745e-08 1.847210e-01

absdiff.year.center.square dsp0

6.020866e-02 1.224836e-05

esp0

7.939958e-01

Joint P-value (lower = worse): 0.02344926 .

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

-3.7692 2.7684

nodecov.year.center absdiff.year.center

-6.2043 -10.8690

absdiff.year.center.square dsp0

-13.4641 -1.4062

esp0

0.3342

Individual P-values (lower = worse):

edges nodecov.salience

1.638030e-04 5.633433e-03

nodecov.year.center absdiff.year.center

5.492460e-10 1.619679e-27

absdiff.year.center.square dsp0

2.544474e-41 1.596684e-01

esp0

7.382033e-01

Joint P-value (lower = worse): 0.0121995 .

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

-6.2031 6.1649

nodecov.year.center absdiff.year.center

-5.5803 -9.2886

absdiff.year.center.square dsp0

-9.4799 1.9975

esp0

-0.3411

Individual P-values (lower = worse):

edges nodecov.salience

5.537773e-10 7.052171e-10

nodecov.year.center absdiff.year.center

2.401381e-08 1.563229e-20

absdiff.year.center.square dsp0

2.545143e-21 4.576975e-02

esp0

7.330562e-01

Joint P-value (lower = worse): 0.03754295 .

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

-18.3230 -2.3921

nodecov.year.center absdiff.year.center

-20.0864 -12.2761

absdiff.year.center.square dsp0

-12.2311 8.5883

esp0

0.3551

Individual P-values (lower = worse):

edges nodecov.salience

5.423593e-75 1.675236e-02

nodecov.year.center absdiff.year.center

9.712505e-90 1.217348e-34

absdiff.year.center.square dsp0

2.120003e-34 8.827862e-18

esp0

7.225469e-01

Joint P-value (lower = worse): 0.0006668993 .

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

-5.840 -5.616

nodecov.year.center absdiff.year.center

-5.594 -5.960

absdiff.year.center.square dsp0

-5.911 7.297

esp0

-1.655

Individual P-values (lower = worse):

edges nodecov.salience

5.207428e-09 1.951800e-08

nodecov.year.center absdiff.year.center

2.214444e-08 2.519710e-09

absdiff.year.center.square dsp0

3.408493e-09 2.941238e-13

esp0

9.799947e-02

Joint P-value (lower = worse): 0.08607213 .

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

5.4029 3.0953

nodecov.year.center absdiff.year.center

2.7445 1.4065

absdiff.year.center.square dsp0

-0.3242 -3.3643

esp0

0.2674

Individual P-values (lower = worse):

edges nodecov.salience

6.556981e-08 1.966010e-03

nodecov.year.center absdiff.year.center

6.059853e-03 1.595633e-01

absdiff.year.center.square dsp0

7.457597e-01 7.673387e-04

esp0

7.891952e-01

Joint P-value (lower = worse): 0.009117104 .

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

-15.490528 2.391150

nodecov.year.center absdiff.year.center

-14.469979 -9.233288

absdiff.year.center.square dsp0

-9.591562 14.093301

esp0

0.002117

Individual P-values (lower = worse):

edges nodecov.salience

4.019765e-54 1.679568e-02

nodecov.year.center absdiff.year.center

1.875290e-47 2.624492e-20

absdiff.year.center.square dsp0

8.676131e-22 4.175797e-45

esp0

9.983105e-01

Joint P-value (lower = worse): 8.970676e-11 .

Chain 8

Fraction in 1st window = 0.1

Fraction in 2nd window = 0.5

edges nodecov.salience

-8.5512 -0.1585

nodecov.year.center absdiff.year.center

-7.5754 -14.4830

absdiff.year.center.square dsp0

-12.1607 3.4061

esp0

1.3478

Individual P-values (lower = worse):

edges nodecov.salience

1.218199e-17 8.740580e-01

nodecov.year.center absdiff.year.center

3.581171e-14 1.552145e-47

absdiff.year.center.square dsp0

5.031226e-34 6.590924e-04

esp0

1.777333e-01

Joint P-value (lower = worse): 0.0001815984 .

Loading required namespace: latticeExtra

MCMC diagnostics shown here are from the last round of simulation, prior to computation of final parameter estimates. Because the final estimates are refinements of those used for this simulation run, these diagnostics may understate model performance. To directly assess the performance of the final model on in-model statistics, please use the GOF command: gof(ergmFitObject, GOF=~model).