

ergm MCMC tests

Main test results

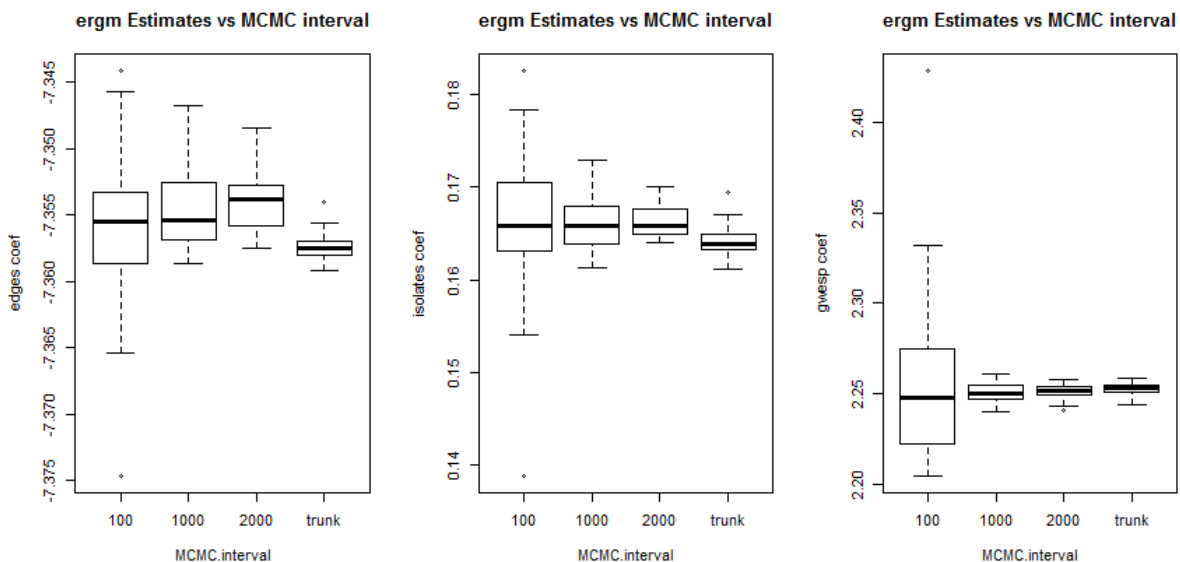
- CRAN version (3.1.3) does not have adaptive MCMC parameters. `ergm` estimation uses default `MCMC.interval=100`, `MCMC.burnin=10000`. The default has significantly more variation in the estimates (caused by the MCMC) compared to longer MCMC intervals.
- Using longer `MCMC.interval` increases estimation time.
- CRAN version (3.1.3), `simulate.ergm` function uses the `MCMC.interval` from `ergm` estimation, which defaults to 100. The resulting networks are very different compared to using `MCMC.burnin=1000`, which is the default for `simulate.formula`.
- Trunk version uses adaptive MCMC parameters. `MCMC.interval` no longer affects `ergm` estimation. Estimation takes over 4 times longer compared to version 3.1.3, `MCMC.interval=1000`.
- Trunk version estimates are similar to CRAN (`MCMC.interval=1000`), to within 1%. Standard error estimates are similar.
- Trunk version, `simulate.ergm` function uses the `MCMC.interval` from `ergm` control, which still defaults to 100. `simulate` doesn't use adaptive MCMC parameters. It still shows the same problem when comparing `simulate.ergm` with `simulate.formula` with defaults.

Test parameters

```
data(faux.magnolia.high)
nw <- faux.magnolia.high
fauxmodel.01 <- ergm(nw ~ edges + isolates + gwesp(0.2, fixed=T),
                    control=control.ergm(MCMLE.maxit=100, MCMC.interval = 1000))
```

Figures

Coefficient estimates:



Standard errors:

