

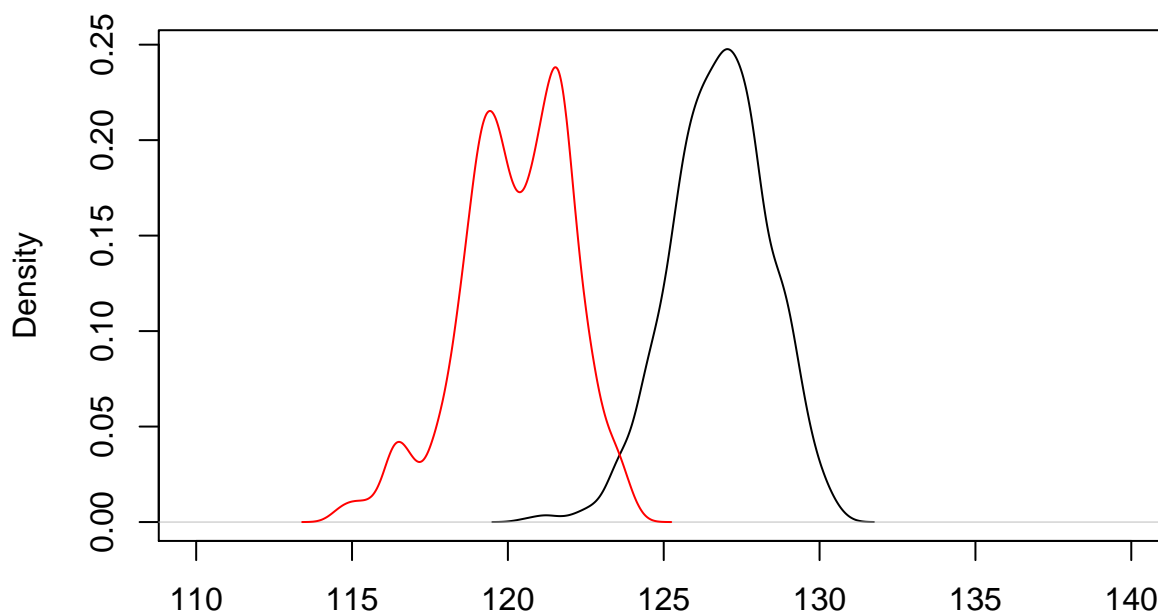
New sampler

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```
ergm_test <- ergm::simulate_formula(network::network(20, directed = FALSE) ~ gwdegree(2, fixed = TRUE),  
  
x = mech_net_gwdegree_n(1, 20, 1)  
sn_init = sort(as.numeric(igraph::degree(x)))  
sn_test <- ergm_simulator(sn_init, gwdegree , 5000, 3, alpha = 2)  
  
plot(density(ergm_test), xlim = c(110, 140))  
lines(density(sn_test[-c(1:1000)]), col = "red")
```

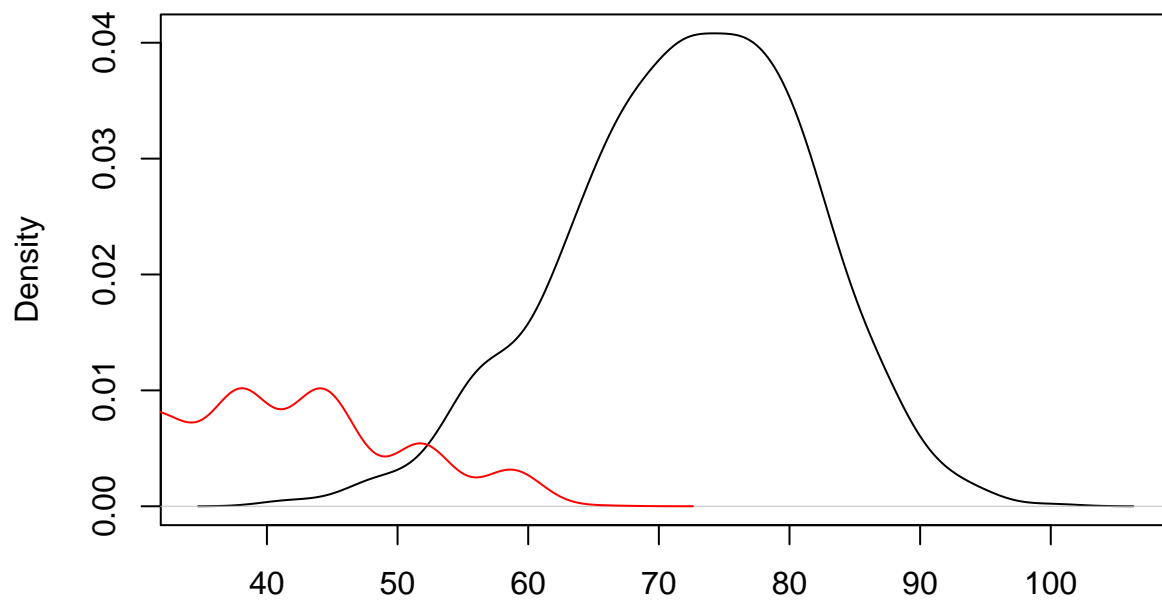
density.default(x = ergm_test)



N = 1000 Bandwidth = 0.3547

```
ergm_test <- ergm::simulate_formula(network::network(20, directed = FALSE) ~ gwdegree(2, fixed = TRUE),  
  
x = mech_net_gwdegree_n(1, 20, 1)  
sn_init = sort(as.numeric(igraph::degree(x)))  
sn_test <- ergm_simulator(sn_init, gwdegree , 10000, -1, alpha = 2)  
  
plot(density(ergm_test))  
lines(density(sn_test[-c(1:2000)]), col = "red")
```

density.default(x = ergm_test)



N = 1000 Bandwidth = 2.095

```
system.time(ergm::simulate_formula(network::network(20, directed = FALSE) ~ gwdegree(2, fixed = TRUE),
```

```
## user system elapsed  
## 3.864 0.001 3.866
```

```
system.time(ergm_simulator(sn_init, gwdegree , 10000, -1, alpha = 2))
```

```
## user system elapsed  
## 10.970 0.008 10.979
```