

weighted_richclub_tm

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This function calculates the weighted rich-club coefficient proposed in Opsahl, T., Colizza, V., Panzarasa, P., Ramasco, J.J. "Prominence and control: The weighted rich-club effect". Physical Review Letters 101 (168702; arXiv: 0804.0417) using the null model proposed in Opsahl. T. Weighted Rich-club Effect: A more appropriate null model for scientific collaboration networks.

It takes five parameters:

- net: a binary two-mode edgelist
- NR: number of reshuffles; default: 100
- seed: random seed
- projection.method: either "sum" or "Newman". See the projecting_tm-function.
- nbins: number of bins in the output, default: 30

Example## Load tnet

```
library(tnet)## Load data (subset)
```

```
net <- read.table("http://opsahl.co.uk/tnet/datasets/Newman-Cond_mat_95-99-two_mode.txt", nrows=100)## Run the function
```

```
weighted_richclub_tm(net)
```

```
      x      y      l99      l95      h95      h99
1  1.999990 1.000000 1.0000000 1.0000000 1.0000000 1.0000000
2  2.165263 1.008746 0.9025625 0.9527048 1.008746 1.008746
...
6  2.974692 1.008746 0.9025625 0.9527048 1.008746 1.008746
7  3.220511 1.030690 0.8589082 0.9018536 1.030690 1.030690
...
14 5.614416 1.030690 0.8589082 0.9018536 1.030690 1.030690
15 6.078374 1.050976 0.7506971 0.8084430 1.050976 1.050976
...
24 12.420321 1.050976 0.7506971 0.8084430 1.050976 1.050976
25 13.446698 0.000000 0.4468388 0.6255743 1.042624 1.042624
...
30 19.999990 0.000000 0.4468388 0.6255743 1.042624 1.042624
```