"Test after modifying functions to simulate data in HMTree package"

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Contents

1 Modify simulate.data function

Let's check if modification doe not change outputs.

```r
path.HMTree.package = "/home/hjshim/d/hjshim/software/HMTree/"
## read all functions
source(paste0(path.HMTree.package, "R/doppler.f.R"))
source(paste0(path.HMTree.package, "R/heaviside.f.R"))
source(paste0(path.HMTree.package, "R/spike.f.R"))
source(paste0(path.HMTree.package, "R/simulate_true_curve.R"))
source(paste0(path.HMTree.package, "R/simulate_noisy_curve.R"))
## read simulate.data function
source(paste0(path.HMTree.package, "R/simulate.data.R"))

curve.length = 1024
model.mode = 'Poisson'
num.groups=1
num.samples=10
WHMT.sigma=0.5
plotfn=FALSE

set.seed(666)
```

```r
res.pois = simulate.data(curve.length=curve.length, model.mode=model.mode, num.
    groups=num.groups,num.samples=num.samples, WHMT.sigma=WHMT.sigma,plotfn=
    plotfn)
str(res.pois)
## List of 4
## $ lambda_vec : num [1:1024] 58.3 57.7 57.1 56.5 55.9 ...
## $ lambda_diff_vec: num [1:1024] 0 0 0 0 0 0 0 0 0 0 0 ...
## $ data : num [1:10, 1:1024] 63 66 63 62 50 52 55 71 57 55 ...
## $ data_mean : num [1:1024] 59.4 60.5 58.7 59.7 55.5 53.3 52.1 52.5 51.6 54.5
    ...

curve.length = 1024
model.mode = 'Normal'
num.groups=1
num.samples=10
WHMT.sigma=0.5
plotfn=FALSE

set.seed(666)
res.normal = simulate.data(curve.length=curve.length, model.mode=model.mode,
    num.groups=num.groups,num.samples=num.samples, WHMT.sigma=WHMT.sigma,plotfn
    =plotfn)
str(res.normal)
##List of 4
## $ lambda_vec : num [1:1024] 58.3 57.7 57.1 56.5 55.9 ...
## $ lambda_diff_vec: num [1:1024] 0 0 0 0 0 0 0 0 0 0 0 ...
## $ data : num [1:1024] 58.6 58.7 56.9 57.5 54.8 ...
## $ data_mean : num [1:1024] 58.6 58.7 56.9 57.5 54.8 ...

#####################################################
## let's compare those outputs with files Or generated.
#####################################################
### You need to modify the following two lines.
setwd('/home/hjshim/d/hjshim/projects/HMTprior/HMTree_test/')
hmt.repodir.path = scan('.hmt.repodir.txt', what="")

pois.true = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt
    _poiss.true.txt"))))
pois.mean = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt
    _poiss.noisy.txt"))))
```

```r
pois.data = t(read.table(paste0(hmt.repodir.path, "data/sim/test_hmt_poiss.
    individual.noisy.txt")))

normal.true = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_
    hmt_gaussian.true.txt"))))
normal.mean = as.numeric(t(read.table(paste0(hmt.repodir.path, "data/sim/test_
    hmt_gaussian.noisy.txt"))))

sum(abs(res.pois$lambda_vec - pois.true) < 0.001)
sum(abs(res.pois$data_mean - pois.mean) < 0.001)
sum(abs(res.pois$data - pois.data) < 0.001)
## [1] 1024
## [1] 1024
## [1] 10240

sum(abs(res.normal$lambda_vec - normal.true) < 0.001)
sum(abs(res.normal$data_mean - normal.mean) < 0.001)
sum(abs(res.normal$data - normal.mean) < 0.001)
## [1] 1024
## [1] 1024
## [1] 1024
```