Center Differentiation V.S. Forward Differentiation Outcomes

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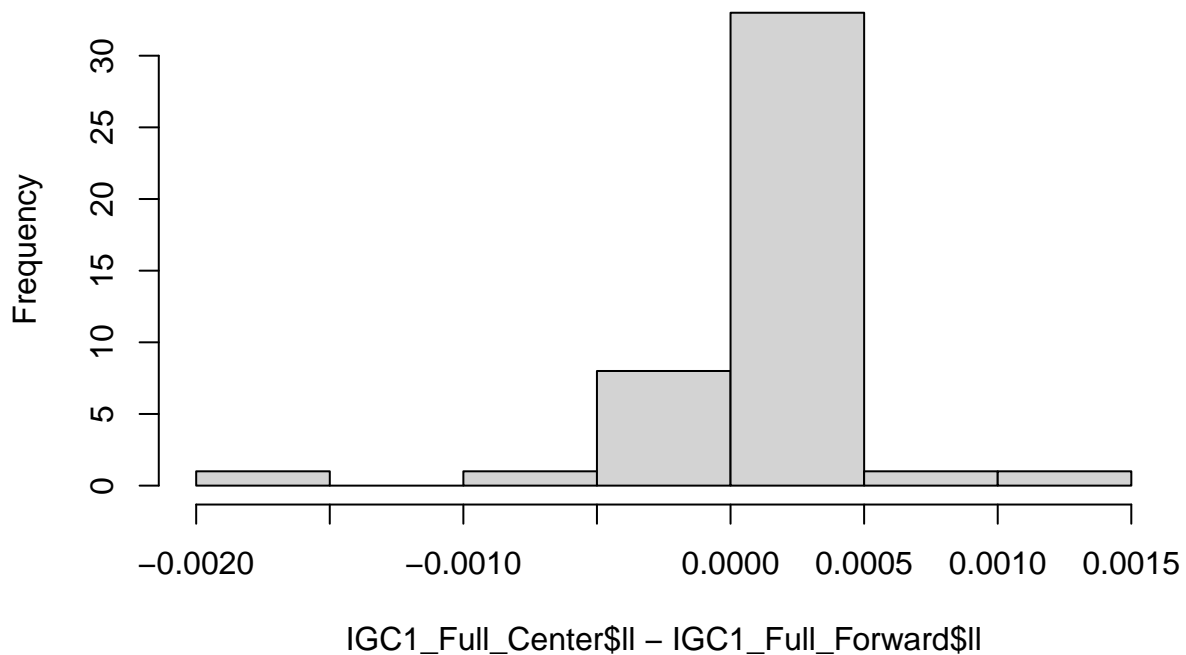
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Look at the difference between log likelihood

one omega model

```
##  [1] -1.716772e-03 -9.185763e-04 -4.676344e-04 -4.286728e-04 -2.021080e-04
##  [6] -8.370011e-05 -3.844723e-05 -2.298282e-05 -7.889203e-06 -3.302997e-06
## [11]  3.076750e-06  3.656186e-06  4.940990e-06  1.042279e-05  1.118782e-05
## [16]  1.788627e-05  1.841445e-05  2.607221e-05  2.814514e-05  2.952121e-05
## [21]  2.968644e-05  3.045236e-05  3.167685e-05  3.267536e-05  4.456653e-05
## [26]  4.715061e-05  5.836017e-05  7.757467e-05  1.000811e-04  1.122503e-04
## [31]  1.163590e-04  1.227988e-04  1.277329e-04  1.298843e-04  1.620077e-04
## [36]  1.703023e-04  1.778021e-04  2.013036e-04  2.167255e-04  2.390990e-04
## [41]  3.208505e-04  3.499952e-04  4.764778e-04  8.344890e-04  1.394358e-03
```


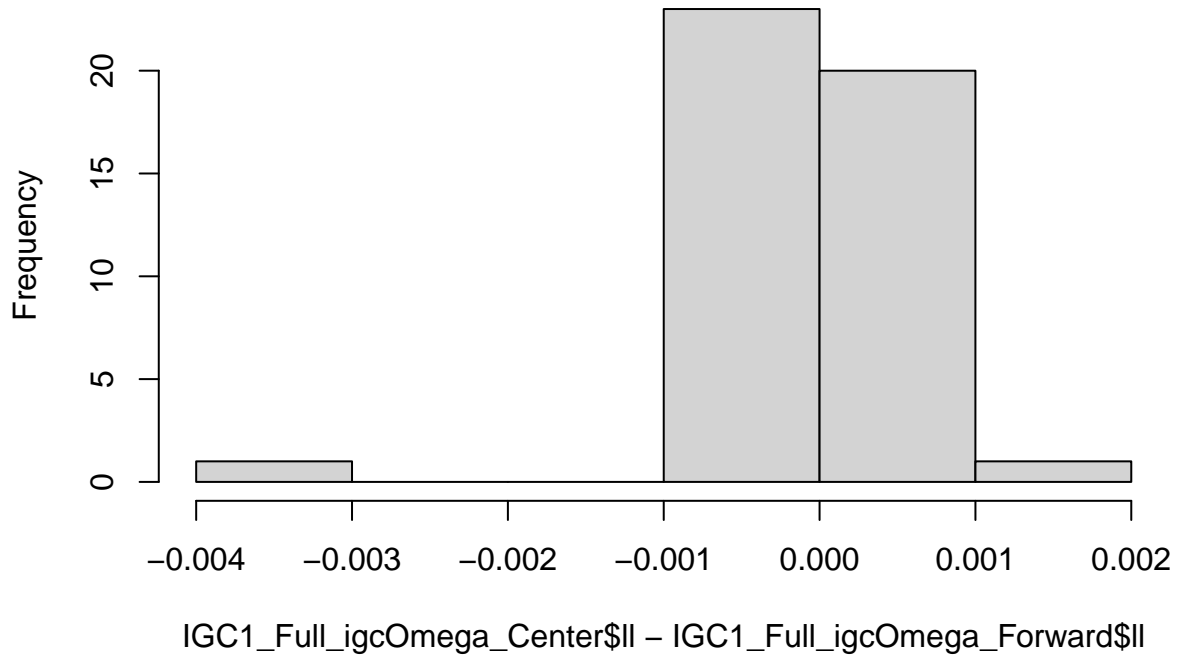
likelihood difference in one omega model

Seperate omega model

```
##  [1] -3.745998e-03 -7.472663e-04 -7.425040e-04 -7.392696e-04 -6.061657e-04
##  [6] -4.223879e-04 -3.630501e-04 -2.826801e-04 -2.818022e-04 -2.718635e-04
```

1

```
## [11] -2.644586e-04 -2.115442e-04 -1.942955e-04 -1.661206e-04 -1.639844e-04
## [16] -1.343196e-04 -1.330075e-04 -1.325125e-04 -8.983179e-05 -8.413558e-05
## [21] -7.630570e-05 -3.925822e-05 -2.990356e-05 -1.493986e-05  1.083499e-06
## [26]  1.483502e-05  3.153318e-05  3.202515e-05  3.208418e-05  3.659280e-05
## [31]  5.257209e-05  6.231926e-05  6.797808e-05  8.917531e-05  1.099127e-04
## [36]  1.102421e-04  1.365878e-04  1.525624e-04  1.756804e-04  1.805234e-04
## [41]  2.214977e-04  2.492659e-04  2.493059e-04  8.910421e-04  1.655335e-03
```

likelihood difference in seperate omega model

IGC1_Full_igcOmega_Center$ll – IGC1_Full_igcOmega_Forward$ll

Data under each case doesn't behave the same