NJN-Korrelatoren

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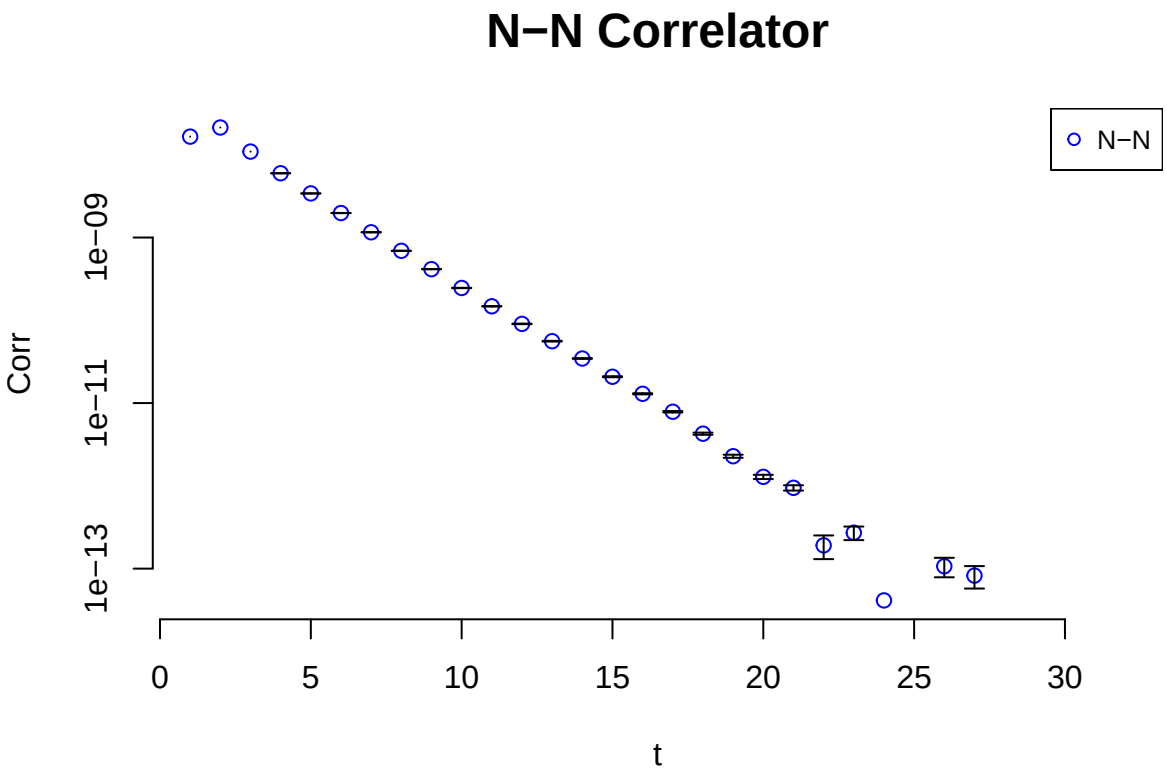
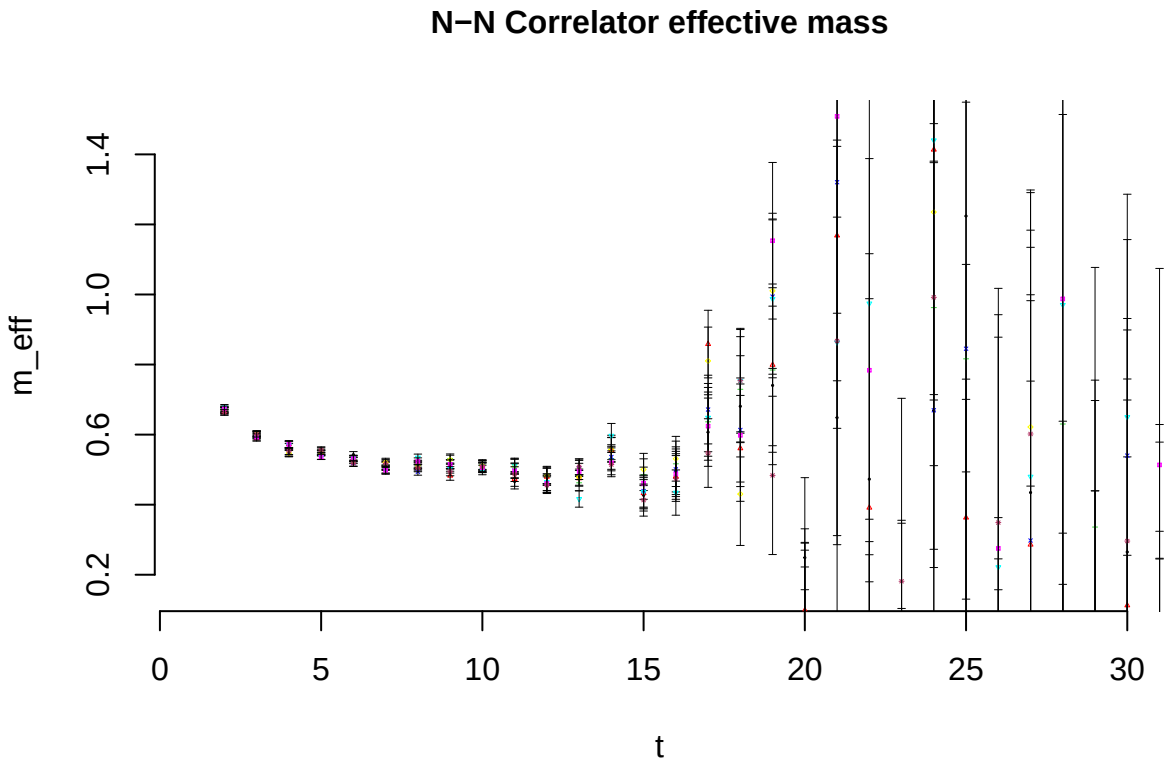
NN-Correlator



Effective Mass

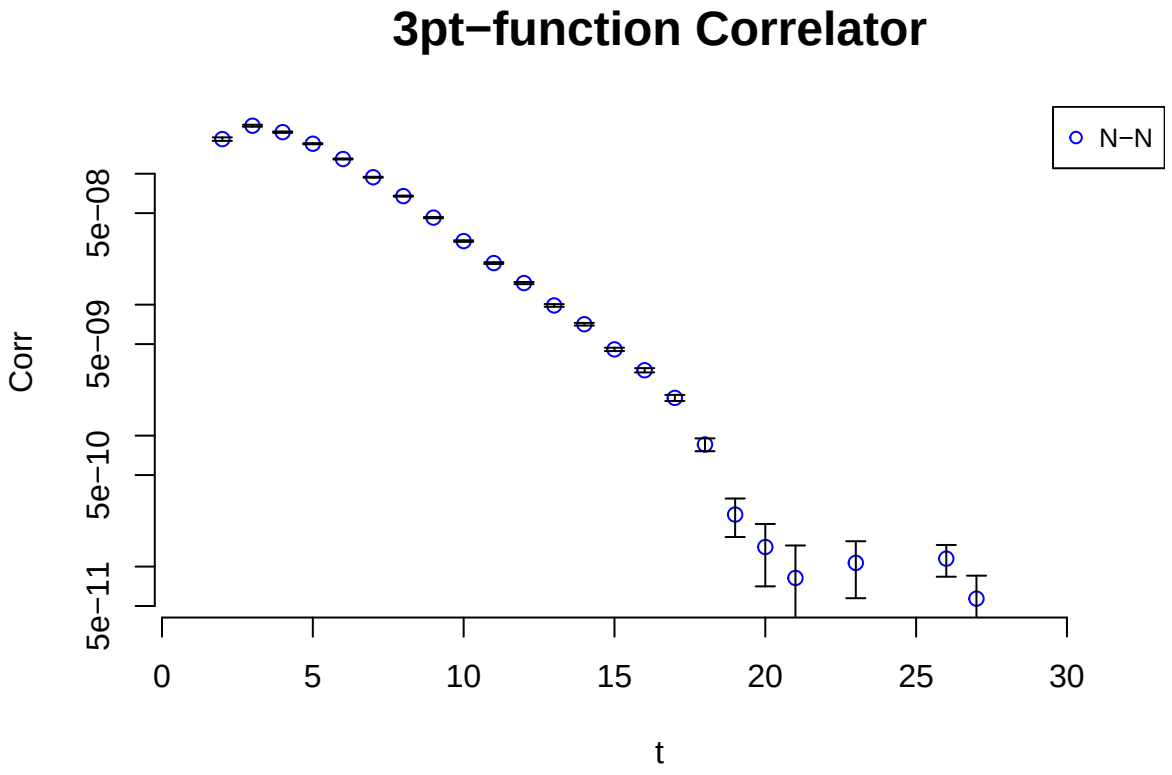
We calculate the effective mass following https://arxiv.org/abs/1612.06963.

$m^{eff}(t,\tau) = \frac{1}{\tau} ln\left(\frac{C(t)}{C(t+\tau)}\right) \rightarrow_{t\rightarrow\infty} \frac{1}{\tau} ln(e^{E_0\tau}) = E_0$



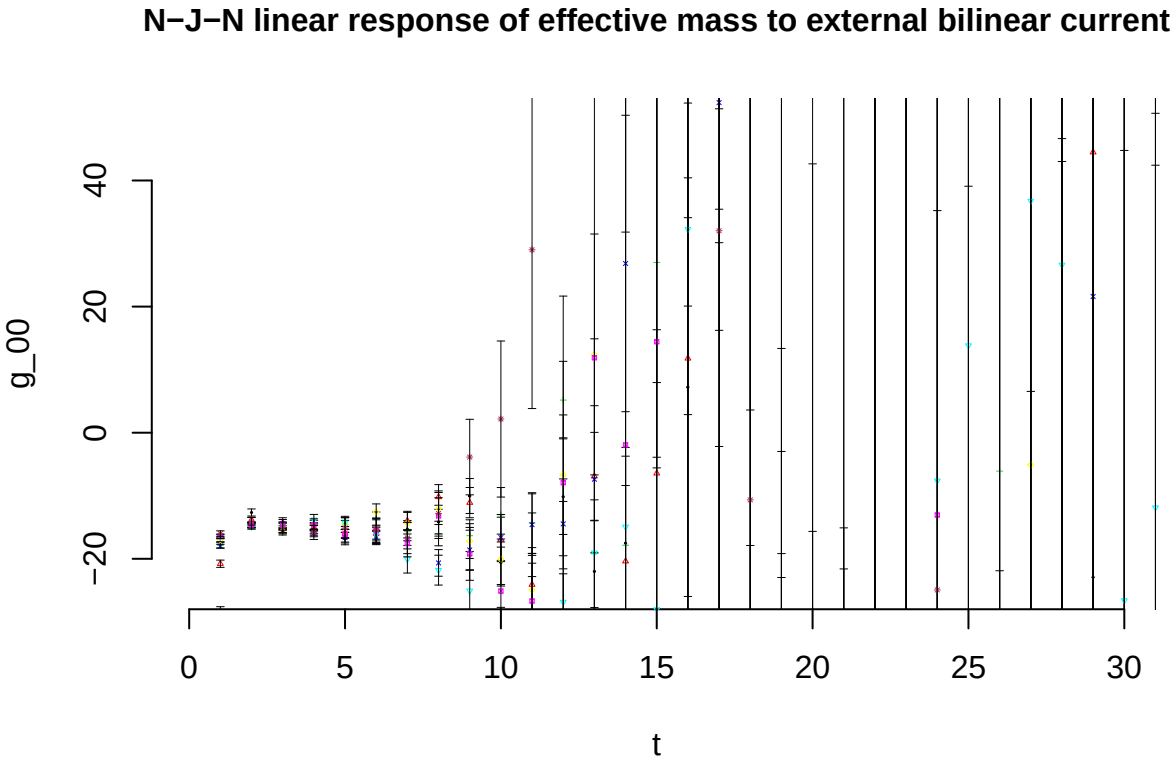
NJN-Correlator

First the 3pt-function correlator:



$$\left.\frac{\partial m_\lambda^{eff}(t,\tau)}{\partial\lambda}\right|_{\lambda=0} = \frac{1}{\tau}\left(\frac{\partial_\lambda C_\lambda(t)}{C(t)} - \frac{\partial_\lambda C_\lambda(t+\tau)}{C(t+\tau)}\right)_{\lambda=0}$$

Plotting the ratio of 2pt- and 3pt-function:

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##  [1]  -16.006520+  0.81638i  -14.038391+  1.19689i  -14.999280+  1.09783i
##  [4]  -15.818662+  2.45567i  -15.125509+  1.58273i  -15.351831+  1.02407i
##  [7]  -16.690643+  0.31044i  -12.816233+  1.05351i   -3.865174+  9.19823i
## [10]    2.168433+ 20.21596i   29.009490+ 27.90972i  238.448598+151.73859i
## [13]  156.558817+ 38.64086i -175.007968-  5.24116i -102.212833+ 19.96528i
## [16]  -74.793500-  5.14158i   32.024873-161.83529i  -10.650646-132.85454i
## [19] -178.886635+ 64.39581i -375.487912-192.16828i -254.721600- 54.20201i
## [22]   95.514779+ 20.35159i   58.335835+ 18.59361i  -24.935261+ 54.64513i
## [25] -263.488113+173.61334i -159.548050+ 79.89200i -105.441744-161.96692i
## [28] -111.029969+ 47.16268i -319.588143+154.53105i -182.845766- 56.91810i
## [31]  -61.726070- 30.44913i  -14.204606- 77.51283i  138.144010- 40.86788i
## [34]   52.776336+ 38.83645i  116.764943+ 76.70109i  132.936935-  9.32371i
## [37]  327.586353-171.98853i  162.542837- 23.87870i   84.408337+ 56.45027i
## [40]   71.404801- 26.98972i -124.835554+ 20.49968i  113.111612+  9.66556i
## [43]   49.227204+ 10.13964i   76.746090+ 43.20862i   61.240357+ 18.96849i
## [46]   74.158249+ 71.22326i    6.903177- 67.76225i   49.570159+ 36.85582i
## [49]  215.964938-  8.92943i   -0.354345- 17.89885i   89.555944- 17.72904i
## [52]   42.658207- 41.98968i   37.310007+ 13.19821i   38.671035-  6.60314i
## [55]   32.892491+  2.69360i   11.507710+ 16.60000i                   NA
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