NJN-Korrelatoren
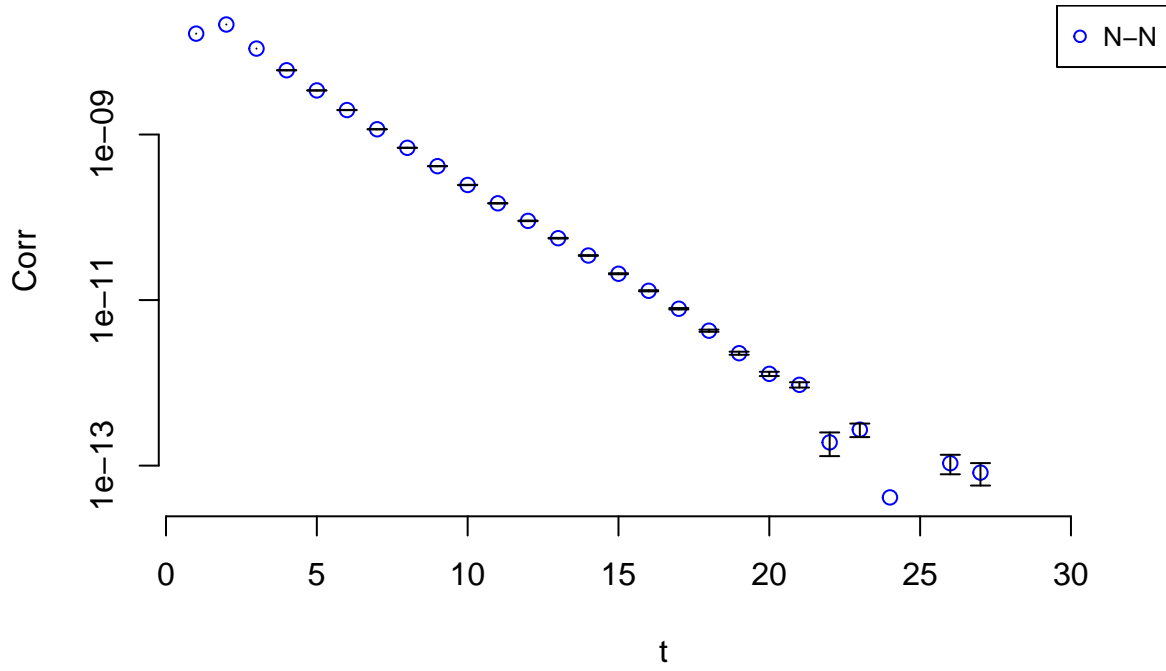
Timo Beilschmidt

November 4, 2019

NN-Correlator

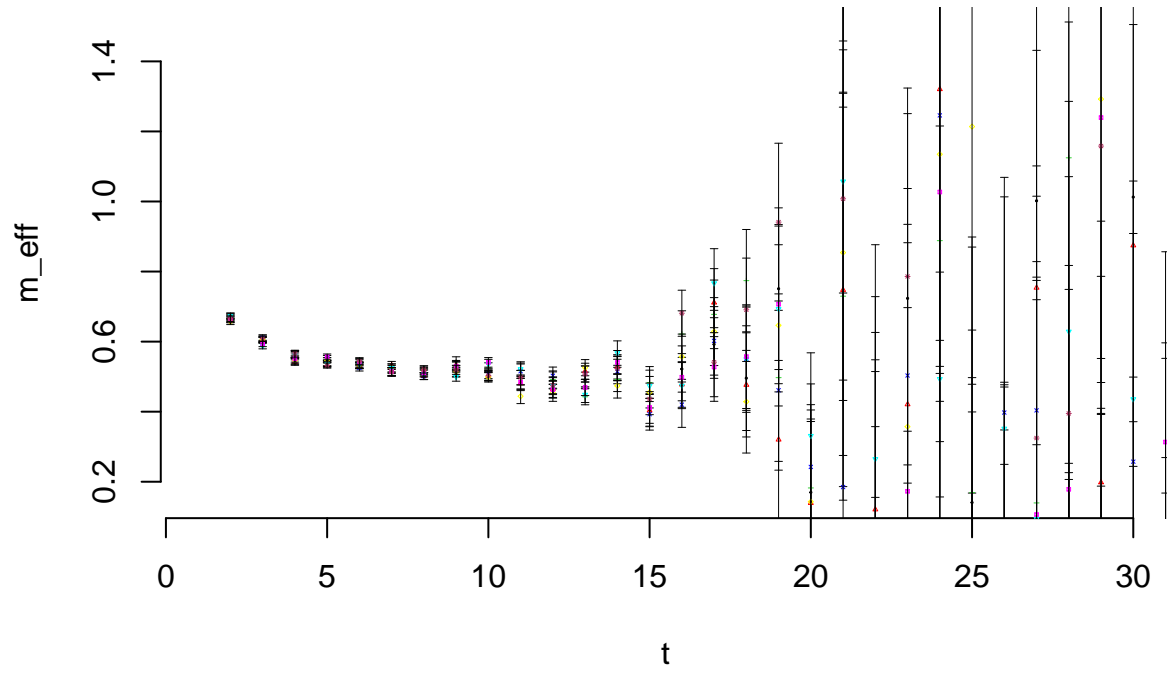## Effective Mass

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

$$m^{eff}(t,\tau) = \frac{1}{\tau}ln\left(\frac{C(t)}{C(t+\tau)}\right) \to_{t\to\infty} \frac{1}{\tau}ln(e^{E_0\tau}) = E_0$$
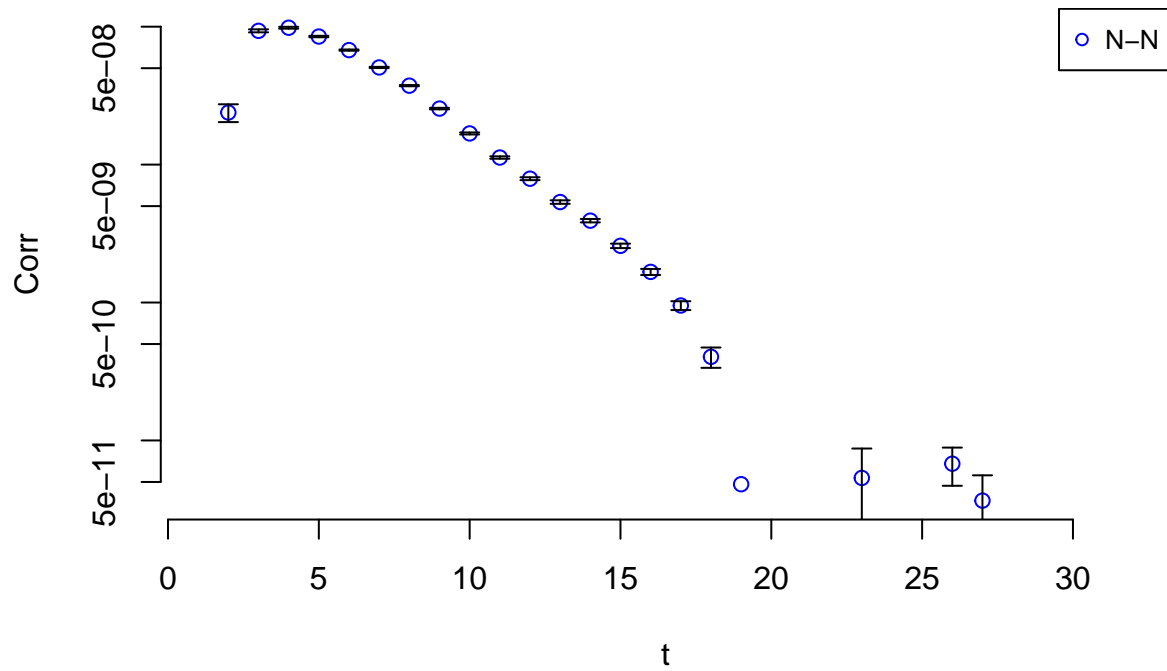
N−N Correlator effective mass

NJN-Correlator

First the 3pt-function correlator:

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:

N–J–N linear response of effective mass to external bilinear current