

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

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## [1] "Test"

## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -7.63e-14+4.23e-11i -8.87e-12-8.18e-12i -1.13e-11+1.34e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.23e-12+2.88e-11i -3.78e-11-2.18e-11i 1.95e-11+8.81e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 6.31e-11-5.19e-11i -2.10e-11+1.35e-10i -1.37e-10+1.03e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -4.6e-11-2.07e-10i 1.1e-11-1.52e-10i -6.2e-11+3.93e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.12e-09-6.34e-10i -1.96e-10-6.81e-10i -2.25e-09+3.28e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.27e-08-1.3e-09i 1.19e-09-7.3e-10i 1.43e-08+1.3e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 6.06e-10+1.12e-09i 6.53e-11+5.19e-11i 3.80e-10+1.28e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.99e-11+2.01e-11i 1.27e-10-6.15e-11i -5.26e-11+1.64e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.21e-11+4.4e-12i 3.27e-11+3.9e-12i -2.88e-11-5.9e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 4.91e-12+1.43e-11i -3.37e-13-2.82e-11i 7.51e-12-5.59e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -3.79e-12+1.81e-12i 1.38e-12+1.72e-12i -1.03e-12+1.15e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.18e-12-1.08e-12i 2.66e-12+7.90e-13i 4.77e-12+2.80e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.80e-12-4.62e-13i -7.46e-13+6.39e-13i -2.61e-13+3.11e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.89e-12+3.06e-12i -4.25e-13+2.71e-13i -5.34e-13-8.20e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.64e-12+1.09e-12i -3.28e-14+3.30e-12i 5.37e-12+2.24e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.14e-12+4.3e-13i 1.19e-11-4.5e-12i 4.60e-12-7.5e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.75e-12+3.79e-12i 0.00-1.02e-11i 4.47e-12-5.26e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.63e-13+7.35e-13i 3.62e-12+2.11e-12i 8.72e-13+8.67e-13i ...
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## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.80e-11+1.61e-12i 7.83e-12+6.56e-12i 4.44e-12+1.47e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -6.96e-12-2.20e-12i -7.70e-12+1.78e-12i 2.37e-12+1.58e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.24e-13-1.85e-11i 1.44e-11-2.43e-11i -4.25e-12+5.77e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.10e-10-1.70e-10i -1.02e-10+1.60e-10i 1.81e-10+1.28e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.55e-10-3.49e-10i 1.26e-10-2.09e-10i -4.84e-10+4.11e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.25e-09-1.19e-09i -4.35e-10-1.41e-10i -6.30e-09-9.19e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 6.63e-09-2.23e-09i -7.40e-10-6.33e-11i 9.23e-09+3.08e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 6.24e-10+6.30e-10i 1.11e-10-2.00e-10i 1.11e-09+1.08e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 9.72e-11+5.20e-12i -2.06e-10-3.29e-10i 2.73e-11-8.14e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -3.47e-11-1.36e-11i 7.21e-12+2.49e-11i -2.38e-11-3.26e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.72e-11-6.06e-12i -1.38e-11-8.13e-13i 1.06e-11-1.27e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.10e-11-1.03e-11i 5.94e-12-2.80e-12i -1.13e-12-2.97e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 4.25e-12-3.78e-12i -2.73e-13+3.20e-12i 3.57e-12+6.25e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 5.6e-13+2.43e-12i 9.2e-13+8.73e-13i 6.5e-13+1.32e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -9.82e-14-8.78e-13i 2.70e-12-3.62e-12i -2.59e-12-5.46e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.79e-12-1.00e-12i 3.42e-12+1.25e-13i 1.25e-12-2.39e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.92e-13+2.31e-13i -1.46e-12-8.32e-13i -5.43e-13+3.33e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.77e-12+8.1e-13i 3.50e-12+8.3e-13i 2.55e-12-5.8e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.98e-12+8.24e-12i 8.51e-12-4.73e-13i 3.30e-12-1.42e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -4.89e-12-6.60e-12i 5.09e-12-6.06e-12i 4.79e-12+2.75e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 4.36e-12+1.86e-12i -1.28e-11+1.98e-11i 6.65e-12+4.57e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.56e-11-2.58e-11i -5.53e-11+4.07e-11i 8.71e-11-1.35e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 4.82e-10-1.95e-10i 8.49e-11+6.23e-11i -4.44e-10+3.11e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 4.95e-09-2.11e-09i -1.74e-09+5.93e-10i -5.43e-09-4.11e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.93e-09+2.09e-09i 2.08e-09-5.52e-10i 7.67e-09+2.19e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.40e-10+5.12e-10i -2.15e-11-2.74e-10i 1.77e-10+7.80e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -3.82e-11+9.16e-11i 4.46e-11-1.93e-11i -6.19e-11+2.55e-10i ...

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## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -3.47e-11+4.06e-12i -7.20e-12-7.86e-12i -2.08e-11+1.03e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.80e-12+2.93e-12i 8.25e-13-4.89e-12i 3.92e-12+1.53e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 6.56e-12+6.17e-12i 8.50e-15-7.02e-12i -4.17e-12+3.49e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 6.29e-14+7.23e-12i -1.65e-12-7.82e-13i 7.33e-12+4.59e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.57e-12-9.01e-13i 2.08e-12-3.61e-12i 3.50e-13+1.64e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 5.70e-13-1.85e-12i 8.63e-13-1.54e-15i 3.86e-13-1.51e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.28e-12+1.27e-12i 1.99e-12-1.07e-12i -5.65e-13-2.66e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.06e-12-2.44e-12i -4.57e-12+9.01e-13i -2.12e-12+7.97e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -3.01e-11-1.12e-11i -7.94e-12-2.83e-12i 2.92e-11+1.36e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -4.12e-12-2.15e-11i 4.39e-12-1.68e-11i 2.11e-11+2.84e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.94e-11-3.38e-11i -1.74e-11+1.93e-11i 3.83e-13+2.64e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.7e-11-1.80e-10i -2.3e-12+1.01e-11i 2.0e-11+2.91e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.22e-09-1.34e-09i -4.34e-10-1.50e-10i -2.42e-09+1.63e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 4.12e-09+2.33e-09i 1.60e-10+3.65e-10i 1.01e-08+3.22e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.09e-10+4.75e-10i 1.93e-10+5.96e-11i 5.16e-10+4.62e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -9.12e-11-6.90e-12i 9.90e-12-2.29e-11i -7.50e-11+5.31e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -2.68e-12+8.06e-12i 1.60e-11-5.40e-12i -7.50e-12+1.25e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -4.97e-12+6.70e-12i 2.38e-13-2.04e-12i -2.16e-11+8.22e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.97e-12+3.03e-12i -1.16e-12-7.70e-12i 2.61e-12-8.96e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -5.10e-13+7.36e-13i 1.19e-12-6.58e-14i 1.24e-12-3.48e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -5.61e-13+2.05e-12i 2.82e-12+2.09e-12i 8.91e-13+9.71e-13i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 2.25e-12-3.49e-12i -3.17e-12-4.13e-12i -2.18e-13-7.16e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.64e-12+2.99e-12i 3.87e-12+5.29e-12i 6.69e-13+1.85e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.48e-12-3.02e-13i 4.63e-12-2.41e-12i -1.94e-12+1.32e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.77e-12-5.66e-12i 6.76e-12+6.24e-12i 9.10e-12+7.42e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -1.82e-11+1.28e-11i 4.02e-12-3.64e-12i -2.47e-12-9.16e-12i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.59e-12-3.22e-11i 2.11e-11-1.07e-10i 2.27e-11+2.68e-11i ...

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## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -8.81e-11-1.82e-10i -3.36e-11+9.58e-12i -6.56e-12+1.63e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 4.68e-10-6.40e-10i 1.63e-10+1.90e-10i -6.19e-10+4.53e-10i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 6.03e-09-8.47e-10i -3.08e-11-5.81e-10i -8.09e-09+3.17e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 3.68e-09+2.23e-09i 4.82e-10-1.21e-09i 3.90e-09+2.23e-09i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.72e-10+1.55e-10i -9.11e-11-2.60e-11i 1.46e-10+9.91e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] -8.49e-11-8.81e-11i 7.12e-11+4.12e-11i 6.77e-13-1.32e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.3e-11+4.59e-12i 2.5e-12+1.62e-11i -9.1e-12+1.92e-11i ...
## [1] "Hello moto"
## cplx [1:4, 1:4, 1:64] 1.98e-12-4.81e-12i -2.71e-12+1.00e-12i 1.01e-11+1.68e-11i ...

## cplx [1:4, 1:4, 1:64] 2.84e-09+2.47e-08i 5.32e-11+1.43e-09i -1.28e-08+1.75e-09i ...
## cplx [1:4, 1:4, 1:64] 3.39e-09+1.36e-08i -1.32e-08-4.28e-09i 6.18e-09+8.04e-10i ...
## cplx [1:4, 1:4, 1:64] 2.90e-08-1.35e-08i 1.85e-08+3.66e-08i -3.75e-08+3.40e-08i ...
## cplx [1:4, 1:4, 1:64] 1.10e-08+1.19e-08i -1.44e-08-1.57e-08i 1.54e-08+3.37e-08i ...
## cplx [1:4, 1:4, 1:64] -2.89e-08+1.45e-08i -2.98e-08+2.28e-08i -1.47e-08-5.24e-09i ...
## cplx [1:4, 1:4, 1:64] 1.14e-07-1.54e-07i 1.55e-07-1.39e-07i -2.08e-08-9.90e-08i ...
## cplx [1:4, 1:4, 1:64] 2.57e-08+1.56e-07i -2.48e-08+1.91e-08i -5.50e-08+1.76e-07i ...
## cplx [1:4, 1:4, 1:64] -2.11e-08-5.13e-08i 4.47e-09-2.29e-08i -3.21e-08+1.11e-08i ...
## cplx [1:4, 1:4, 1:64] 2.53e-09-1.38e-08i 1.26e-08-8.62e-09i -1.52e-08-2.04e-08i ...
## cplx [1:4, 1:4, 1:64] 2.05e-09+7.29e-09i -1.94e-09-8.95e-09i 5.42e-09-5.00e-09i ...
## cplx [1:4, 1:4, 1:64] -1.90e-09+1.12e-09i -1.46e-11-1.16e-09i 2.32e-09+1.98e-09i ...
## cplx [1:4, 1:4, 1:64] 6.66e-10-6.91e-10i 1.36e-09-4.65e-10i 2.84e-09-2.40e-11i ...
## cplx [1:4, 1:4, 1:64] 1.99e-09-6.55e-12i 3.23e-10+5.30e-11i 1.63e-10+6.07e-10i ...
## cplx [1:4, 1:4, 1:64] 1.32e-09+1.18e-09i -4.04e-10+1.02e-09i -4.56e-10-1.13e-09i ...
## cplx [1:4, 1:4, 1:64] 2.32e-09+8.19e-10i 9.24e-10+2.30e-09i 4.30e-09+1.35e-09i ...
## cplx [1:4, 1:4, 1:64] -4.44e-10-2.54e-09i 7.06e-09-7.83e-10i 4.05e-09+2.66e-09i ...
## cplx [1:4, 1:4, 1:64] 2.09e-09+2.90e-09i -1.53e-10-9.61e-09i 4.04e-09-1.97e-09i ...
## cplx [1:4, 1:4, 1:64] 2.85e-10+1.04e-09i 3.94e-09+1.33e-09i 1.14e-09+5.17e-10i ...
## cplx [1:4, 1:4, 1:64] -1.40e-08-8.72e-10i 7.65e-09+8.30e-09i 3.82e-10+1.25e-08i ...
## cplx [1:4, 1:4, 1:64] -1.90e-10-3.15e-09i -4.83e-09+9.79e-10i -2.16e-10+1.05e-08i ...
## cplx [1:4, 1:4, 1:64] 8.42e-09-1.41e-08i 6.67e-10-2.19e-08i -1.83e-08+1.48e-08i ...
## cplx [1:4, 1:4, 1:64] -2.00e-08-2.33e-08i -4.18e-08+9.02e-08i 4.73e-08+1.84e-09i ...
## cplx [1:4, 1:4, 1:64] -2.34e-08-1.27e-08i 2.23e-08-2.66e-08i -1.96e-08+2.53e-08i ...
## cplx [1:4, 1:4, 1:64] -4.79e-08-8.79e-08i 6.06e-08-2.04e-08i -1.21e-07-2.05e-07i ...
## cplx [1:4, 1:4, 1:64] 5.44e-08-3.11e-07i -8.92e-08-1.73e-07i -2.03e-07-1.08e-07i ...
## cplx [1:4, 1:4, 1:64] 7.07e-08-6.93e-09i 6.72e-08-2.75e-08i 2.26e-07+3.35e-08i ...
## cplx [1:4, 1:4, 1:64] 6.0e-09-2.10e-08i -7.8e-08-1.05e-07i -6.8e-09-7.87e-08i ...
## cplx [1:4, 1:4, 1:64] -2.43e-09-5.52e-09i -1.91e-09+6.39e-09i -4.80e-09+5.42e-10i ...
## cplx [1:4, 1:4, 1:64] -8.99e-10-1.97e-09i -1.42e-09+1.61e-09i 1.86e-10+1.30e-09i ...
## cplx [1:4, 1:4, 1:64] -1.01e-08-6.19e-09i 7.01e-10-2.43e-09i 1.02e-09-2.87e-09i ...
## cplx [1:4, 1:4, 1:64] 1.74e-09-3.22e-09i -4.34e-10+1.11e-09i 2.40e-09+4.65e-09i ...
## cplx [1:4, 1:4, 1:64] -1.48e-10+2.58e-09i 8.25e-10-3.30e-10i 5.89e-10+1.28e-09i ...
## cplx [1:4, 1:4, 1:64] 1.40e-10-1.17e-09i 2.77e-09-3.42e-09i -1.94e-09-4.01e-09i ...
## cplx [1:4, 1:4, 1:64] 1.24e-10-7.22e-10i 2.76e-09+5.89e-10i 6.92e-10-3.06e-09i ...
## cplx [1:4, 1:4, 1:64] -5.01e-10+6.80e-10i -1.09e-09-6.45e-10i -6.64e-10+2.51e-09i ...
## cplx [1:4, 1:4, 1:64] 4.18e-10+2.72e-09i 2.87e-09+3.68e-10i 1.64e-09-2.58e-09i ...
## cplx [1:4, 1:4, 1:64] -4.25e-10+4.79e-09i 6.43e-09+9.13e-10i 4.49e-09+2.36e-11i ...

```

```

## cplx [1:4, 1:4, 1:64] -4.80e-09-5.86e-09i 2.63e-09-1.66e-09i 6.70e-09+1.48e-08i ...
## cplx [1:4, 1:4, 1:64] -7.41e-10-3.31e-09i -1.36e-08+8.49e-09i 3.23e-09+3.43e-09i ...
## cplx [1:4, 1:4, 1:64] 1.60e-08-7.02e-09i -3.61e-08+1.29e-08i 2.33e-08-1.32e-09i ...
## cplx [1:4, 1:4, 1:64] 5.92e-08+6.21e-08i 5.38e-08-2.90e-08i -3.58e-09-5.97e-08i ...
## cplx [1:4, 1:4, 1:64] -1.47e-07+2.49e-07i -7.15e-08-3.03e-07i 6.15e-08-2.11e-09i ...
## cplx [1:4, 1:4, 1:64] -8.45e-08+1.09e-07i 2.96e-07+9.87e-08i 1.27e-07+5.85e-09i ...
## cplx [1:4, 1:4, 1:64] 2.64e-08+3.99e-09i 5.04e-08-5.91e-08i -7.01e-08+1.45e-07i ...
## cplx [1:4, 1:4, 1:64] -2.09e-08+1.56e-08i -1.16e-09-2.19e-08i -4.06e-08+3.20e-08i ...
## cplx [1:4, 1:4, 1:64] -1.36e-08+7.16e-10i 6.52e-09-6.66e-09i -8.27e-10-1.37e-09i ...
## cplx [1:4, 1:4, 1:64] 1.66e-09+3.39e-10i 3.07e-10-2.99e-09i -4.34e-10+1.55e-09i ...
## cplx [1:4, 1:4, 1:64] 4.14e-09+3.79e-09i 1.99e-09-2.04e-09i -1.57e-09-2.92e-09i ...
## cplx [1:4, 1:4, 1:64] -1.74e-09+2.87e-09i -1.67e-09+6.35e-10i 4.71e-09+2.96e-09i ...
## cplx [1:4, 1:4, 1:64] 1.39e-09-1.55e-09i 1.92e-09-2.51e-09i -5.16e-10+3.57e-10i ...
## cplx [1:4, 1:4, 1:64] -9.47e-10-3.90e-10i 1.09e-09-1.98e-11i -8.80e-11-4.71e-10i ...
## cplx [1:4, 1:4, 1:64] 1.21e-09+1.52e-09i 1.34e-09-9.13e-10i -3.86e-10-4.44e-11i ...
## cplx [1:4, 1:4, 1:64] 2.87e-09-1.56e-09i -3.22e-09-5.76e-10i -1.30e-09+3.91e-09i ...
## cplx [1:4, 1:4, 1:64] -1.73e-08-9.1e-09i -8.89e-09+4.4e-09i 1.25e-08+6.6e-09i ...
## cplx [1:4, 1:4, 1:64] -9.96e-09-4.07e-09i 2.51e-09-8.69e-09i 6.68e-09+6.65e-09i ...
## cplx [1:4, 1:4, 1:64] 7.76e-09-5.58e-09i -9.69e-09+4.95e-09i -5.00e-09-5.03e-12i ...
## cplx [1:4, 1:4, 1:64] -3.91e-09-5.17e-09i -1.93e-08+6.85e-09i 1.08e-08+1.86e-08i ...
## cplx [1:4, 1:4, 1:64] 8.42e-08+9.46e-08i -5.62e-08-5.66e-08i 7.48e-09-1.26e-08i ...
## cplx [1:4, 1:4, 1:64] -3.26e-07+1.75e-07i -3.03e-07-5.63e-08i 8.84e-08+1.78e-07i ...
## cplx [1:4, 1:4, 1:64] -2.74e-08+1.54e-08i 2.10e-08-7.97e-09i -1.64e-08+8.58e-09i ...
## cplx [1:4, 1:4, 1:64] -1.67e-08-3.10e-08i 8.44e-09-1.86e-08i -2.50e-08-2.50e-09i ...
## cplx [1:4, 1:4, 1:64] 1.10e-09+4.51e-09i 1.31e-08-2.06e-10i -4.61e-09+8.93e-09i ...
## cplx [1:4, 1:4, 1:64] -7.64e-09+2.48e-09i -3.53e-09-5.13e-10i -9.60e-09+4.62e-09i ...
## cplx [1:4, 1:4, 1:64] -6.08e-10+4.09e-11i 1.69e-09-4.44e-09i -5.67e-10-3.36e-09i ...
## cplx [1:4, 1:4, 1:64] 1.38e-09+2.60e-09i 2.79e-10-1.39e-09i 1.00e-09-3.00e-09i ...
## cplx [1:4, 1:4, 1:64] -4.71e-10+3.81e-10i 2.60e-09+1.34e-09i 6.71e-10-1.21e-09i ...
## cplx [1:4, 1:4, 1:64] 1.61e-09-2.09e-09i -2.47e-10-3.59e-09i -9.00e-11-5.56e-09i ...
## cplx [1:4, 1:4, 1:64] -3.23e-09+3.71e-09i 4.42e-09+3.22e-09i 3.68e-10+1.04e-09i ...
## cplx [1:4, 1:4, 1:64] -6.16e-11-2.83e-10i 3.05e-09-5.03e-10i -2.47e-09-6.31e-10i ...
## cplx [1:4, 1:4, 1:64] 5.79e-09-2.56e-09i 4.64e-09+3.10e-10i 2.75e-09+4.28e-09i ...
## cplx [1:4, 1:4, 1:64] -1.39e-09+8.57e-09i 3.81e-09+4.94e-10i -6.75e-09-5.27e-09i ...
## cplx [1:4, 1:4, 1:64] 3.43e-08-2.54e-08i -5.96e-09-2.75e-08i 2.91e-08+1.30e-08i ...
## cplx [1:4, 1:4, 1:64] -4.40e-08-4.07e-08i 9.67e-09+2.63e-09i 1.19e-08+4.27e-08i ...
## cplx [1:4, 1:4, 1:64] 1.41e-08+2.38e-08i 6.72e-09+1.51e-08i 2.54e-08-5.56e-08i ...
## cplx [1:4, 1:4, 1:64] -1.38e-07+1.53e-07i 1.21e-07-1.33e-07i 2.44e-07-4.23e-08i ...
## cplx [1:4, 1:4, 1:64] 1.29e-07+6.1e-08i 1.67e-07-4.5e-08i 1.70e-07+8.7e-08i ...
## cplx [1:4, 1:4, 1:64] 2.06e-08-6.40e-09i 1.03e-08-6.47e-09i -1.10e-08-4.88e-08i ...
## cplx [1:4, 1:4, 1:64] -2.62e-08-4.11e-08i 2.50e-08+2.85e-08i -1.95e-08+1.88e-08i ...
## cplx [1:4, 1:4, 1:64] 1.33e-09+1.57e-08i 2.46e-09+8.24e-09i -1.31e-08+1.04e-08i ...
## cplx [1:4, 1:4, 1:64] 2.59e-09+2.04e-10i -3.44e-09-2.87e-09i 8.46e-09+9.27e-09i ...

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