Generalized Langevin Equation analytics

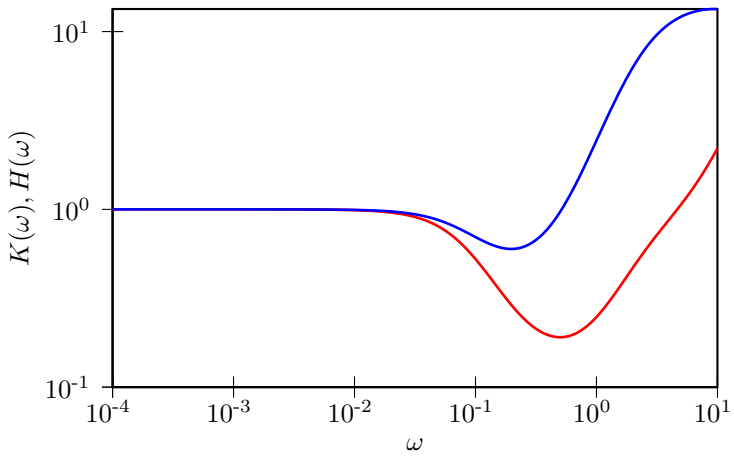
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
2.1211\times10^{-02} & -5.1125\times10^{-03} & -3.4874\times10^{-03} & 3.4089\times10^{-02} & -5.9332\times10^{-01} & -6.2563\times10^{-01} & -1.6254\times10^{-01} \\
4.7567\times10^{-03} & 7.6566\times10^{-02} & 1.4952\times10^{-01} & 2.6410\times10^{-02} & 4.9442\times10^{-02} & 6.2277\times10^{-02} & 5.5262\times10^{-01} \\
-3.2824\times10^{-03} & -1.4952\times10^{-01} & 2.4318\times10^{-01} & 1.8946\times10^{-02} & 1.7383\times10^{-01} & 1.6511\times10^{-02} & 9.1257\times10^{+00} \\
-1.2507\times10^{-02} & -2.6410\times10^{-02} & -1.8946\times10^{-02} & 9.7331\times10^{-01} & 4.4169\times10^{-01} & 3.5127\times10^{-01} & -1.3615\times10^{+00} \\
-1.8888\times10^{-01} & -4.9442\times10^{-02} & -1.7383\times10^{-01} & -4.4169\times10^{-01} & 2.8336\times10^{+01} & -1.0908\times10^{+01} & 2.5411\times10^{+00} \\
-1.0023\times10^{+00} & -6.2277\times10^{-02} & -1.6511\times10^{-02} & -3.5127\times10^{-01} & 1.0908\times10^{+01} & 4.2350\times10^{+01} & -1.7751\times10^{+00} \\
1.4534\times10^{-01} & -5.5262\times10^{-01} & -9.1257\times10^{+00} & 1.3615\times10^{+00} & -2.5411\times10^{+00} & 1.7751\times10^{+00} & 4.2376\times10^{+01}
\end{pmatrix}$$

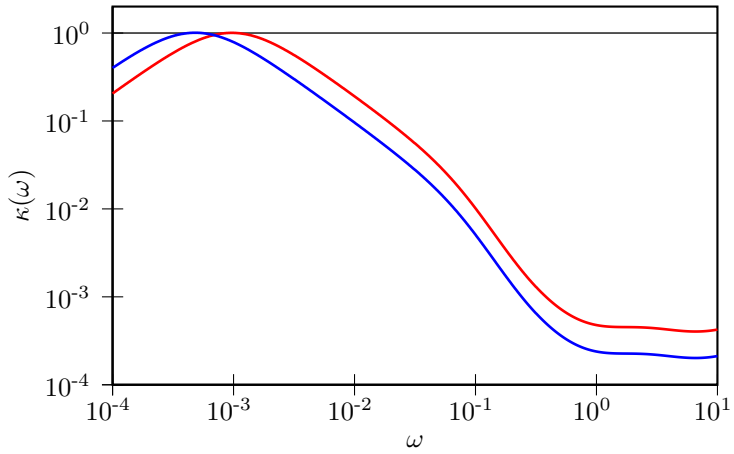
- **Free-particle covariance matrix $\mathbf{C}_p$:**

$$\begin{pmatrix}
1.0000\times10^{+00} & -6.4829\times10^{-02} & -2.6381\times10^{-01} & 3.7676\times10^{-02} & 9.9021\times10^{-03} & 2.3661\times10^{-02} & 1.7845\times10^{-02} \\
-6.4829\times10^{-02} & 2.1704\times10^{+00} & -6.0119\times10^{-02} & -1.3330\times10^{-01} & 2.2450\times10^{-02} & -2.0760\times10^{-02} & -2.5662\times10^{-01} \\
-2.6381\times10^{-01} & -6.0119\times10^{-02} & 1.9357\times10^{+01} & -2.0413\times10^{+00} & 2.5648\times10^{-01} & -1.9821\times10^{-01} & -4.7901\times10^{-01} \\
3.7676\times10^{-02} & -1.3330\times10^{-01} & -2.0413\times10^{+00} & 3.0467\times10^{-01} & -4.3660\times10^{-02} & 3.9139\times10^{-02} & 2.3832\times10^{-01} \\
9.9021\times10^{-03} & 2.2450\times10^{-02} & 2.5648\times10^{-01} & -4.3660\times10^{-02} & 8.8462\times10^{-02} & -5.8357\times10^{-02} & -6.4168\times10^{-01} \\
2.3661\times10^{-02} & -2.0760\times10^{-02} & -1.9821\times10^{-01} & 3.9139\times10^{-02} & -5.8357\times10^{-02} & 4.4150\times10^{-02} & 4.6977\times10^{-01} \\
1.7845\times10^{-02} & -2.5662\times10^{-01} & -4.7901\times10^{-01} & 2.3832\times10^{-01} & -6.4168\times10^{-01} & 4.6977\times10^{-01} & 2.1805\times10^{+01}
\end{pmatrix}$$

- **Fourier-transform of memory kernels $K(\omega)/K(0)$ and $H(\omega)/H(0)$**



- **Sampling efficiency, for q^2 and $p^2+\omega^2q^2$:**



- **Free-particle diffusion coeff.** (mD/k_BT)**:** $1.0300 \times 10^{+03}$
- ω**-dependent fluctuations,** $\omega^2 \langle q^2 \rangle$ **and** $\langle p^2 \rangle$