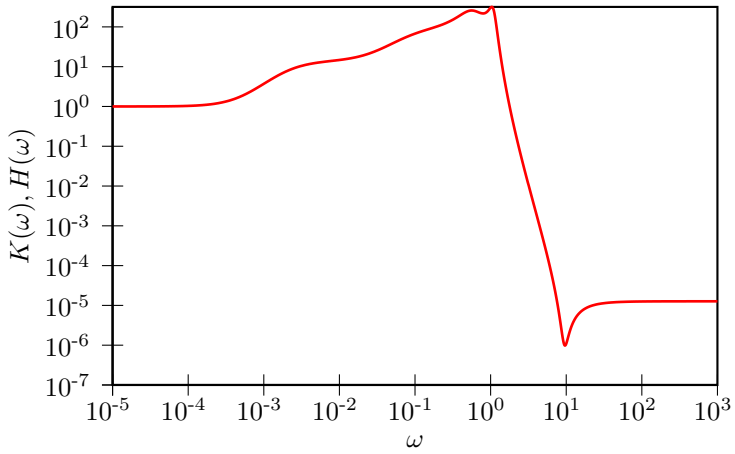
Generalized Langevin Equation analytics

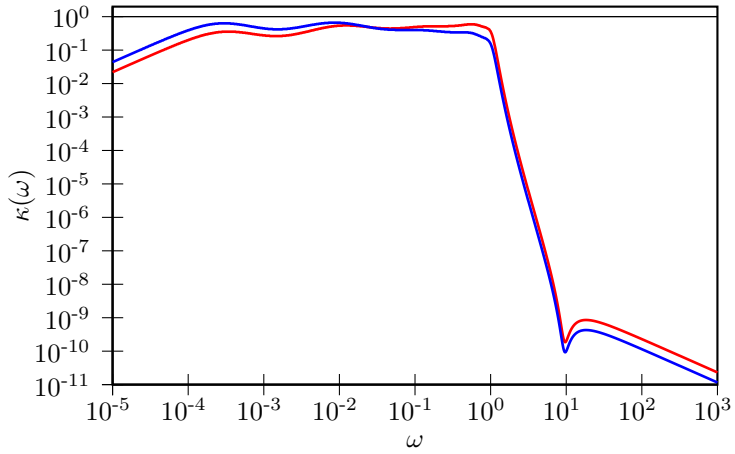
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
1.1571\times10^{-08} & 3.7285\times10^{-01} & 4.9072\times10^{-02} & 5.1040\times10^{-03} & -2.1002\times10^{-03} & 5.1567\times10^{-04} & 2.1117\times10^{-03} \\
-3.7285\times10^{-01} & 2.5948\times10^{-08} & 1.0612\times10^{-01} & 7.7887\times10^{-01} & 1.0730\times10^{-02} & 1.9689\times10^{-02} & 1.3088\times10^{-02} \\
-4.9072\times10^{-02} & -1.0612\times10^{-01} & 1.3889\times10^{-06} & 1.1044\times10^{-01} & -5.9816\times10^{-04} & 2.8164\times10^{-02} & 1.3911\times10^{-01} \\
-5.1039\times10^{-03} & -7.7887\times10^{-01} & -1.1044\times10^{-01} & 3.3897\times10^{-05} & 9.7599\times10^{-03} & 7.1483\times10^{-02} & 6.1119\times10^{-01} \\
2.1002\times10^{-03} & -1.0730\times10^{-02} & 5.9816\times10^{-04} & -9.7599\times10^{-03} & 1.1398\times10^{-03} & 5.5766\times10^{-02} & -2.6683\times10^{-01} \\
-4.2252\times10^{-04} & -1.9689\times10^{-02} & -2.8164\times10^{-02} & -7.1483\times10^{-02} & -5.5766\times10^{-02} & 6.1614\times10^{-01} & -6.8252\times10^{-01} \\
-2.0251\times10^{-03} & -1.3088\times10^{-02} & -1.3911\times10^{-01} & -6.1119\times10^{-01} & 2.6683\times10^{-01} & 6.8252\times10^{-01} & 2.3893\times10^{-01}
\end{pmatrix}$$

- **Fluctuation-Dissipation theorem is enforced, $\mathbf{C}_p = k_B T$**
- **Memory kernel FT, $K(\omega)/K(0) = H(\omega)/H(0)$**



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



- **Free-particle diffusion coeff. $(mD/k_B T)$:** $1.0954 \times 10^{+03}$