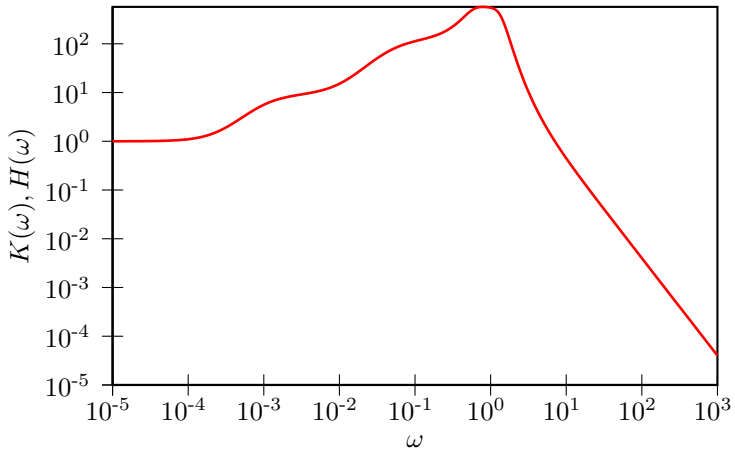
Generalized Langevin Equation analytics

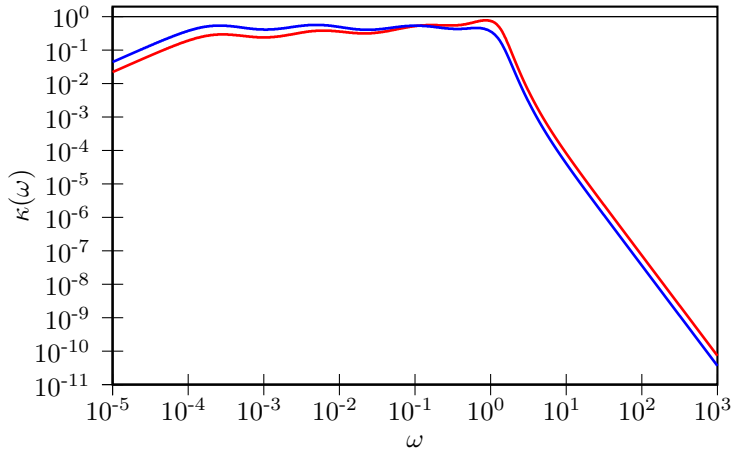
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
1.0000\times10^{-10} & 7.1971\times10^{-02} & 5.8224\times10^{-01} & -1.6285\times10^{-01} & -1.2489\times10^{-02} & 1.1959\times10^{-01} & -1.6367\times10^{-01} \\
-7.1971\times10^{-02} & 5.1331\times10^{-06} & -3.9651\times10^{-02} & 1.0487\times10^{-01} & 9.3631\times10^{-03} & -7.0419\times10^{-03} & 9.4298\times10^{-02} \\
-5.8224\times10^{-01} & 3.9651\times10^{-02} & 1.7946\times10^{-04} & 7.7359\times10^{-01} & 2.4906\times10^{-02} & -9.6118\times10^{-02} & -2.9604\times10^{-01} \\
1.6285\times10^{-01} & -1.0487\times10^{-01} & -7.7359\times10^{-01} & 5.1190\times10^{-04} & 2.9894\times10^{-02} & -1.2128\times10^{-01} & 8.4183\times10^{-01} \\
1.2489\times10^{-02} & -9.3631\times10^{-03} & -2.4906\times10^{-02} & -2.9894\times10^{-02} & 2.8139\times10^{-04} & 6.0910\times10^{-02} & -1.8909\times10^{-01} \\
-1.1959\times10^{-01} & 7.0419\times10^{-03} & 9.6118\times10^{-02} & 1.2128\times10^{-01} & -6.0910\times10^{-02} & 7.6489\times10^{-01} & -8.4631\times10^{-01} \\
1.6367\times10^{-01} & -9.4298\times10^{-02} & 2.9604\times10^{-01} & -8.4183\times10^{-01} & 1.8909\times10^{-01} & 8.4631\times10^{-01} & 9.4495\times10^{-01}
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $1.1023 \times 10^{+03}$