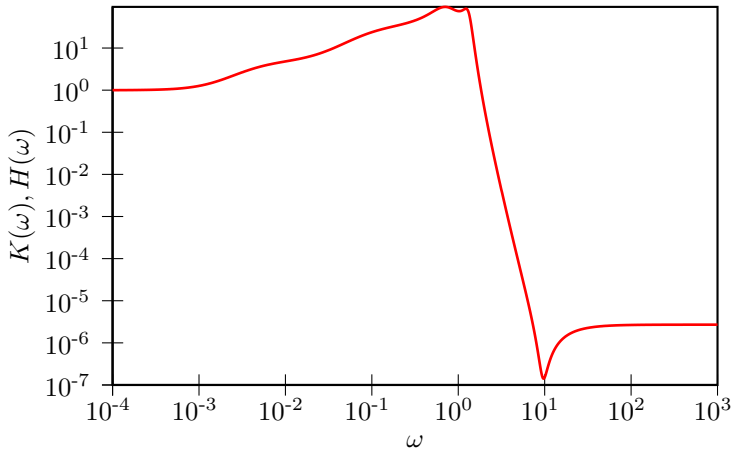
Generalized Langevin Equation analytics

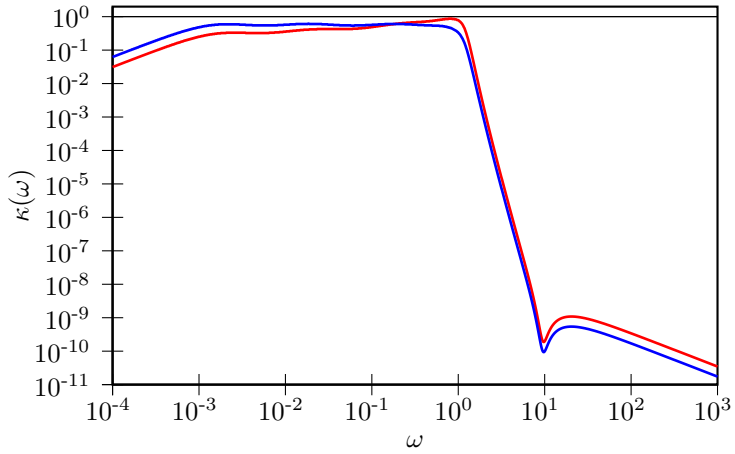
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
1.7359\times10^{-08} & 6.2186\times10^{-01} & 8.4577\times10^{-02} & -3.1824\times10^{-04} & -5.5160\times10^{-03} & 3.5061\times10^{-03} & 5.0961\times10^{-04} \\
-6.2186\times10^{-01} & 1.0515\times10^{-08} & 6.8673\times10^{-02} & 1.6156\times10^{-02} & 9.0460\times10^{-01} & -9.2327\times10^{-03} & -1.6595\times10^{-02} \\
-8.4577\times10^{-02} & -6.8673\times10^{-02} & 8.0885\times10^{-07} & 1.0946\times10^{-02} & 1.0805\times10^{-01} & 2.7616\times10^{-01} & 1.4929\times10^{-01} \\
3.1823\times10^{-04} & -1.6156\times10^{-02} & -1.0946\times10^{-02} & 5.0636\times10^{-04} & -8.5030\times10^{-03} & -1.8472\times10^{-01} & -1.4295\times10^{-02} \\
5.5214\times10^{-03} & -9.0460\times10^{-01} & -1.0805\times10^{-01} & 8.5030\times10^{-03} & 4.4476\times10^{-04} & 6.8654\times10^{-01} & 1.3966\times10^{-02} \\
-3.5019\times10^{-03} & 9.2327\times10^{-03} & -2.7616\times10^{-01} & 1.8472\times10^{-01} & -6.8654\times10^{-01} & 7.9984\times10^{-03} & 1.0638\times10^{+00} \\
-4.7689\times10^{-04} & 1.6595\times10^{-02} & -1.4929\times10^{-01} & 1.4295\times10^{-02} & -1.3966\times10^{-02} & -1.0638\times10^{+00} & 1.0402\times10^{+00}
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $1.5620 \times 10^{+02}$