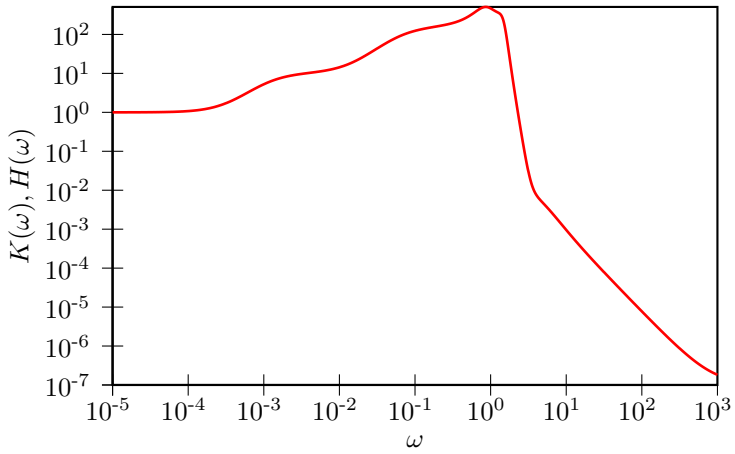
Generalized Langevin Equation analytics

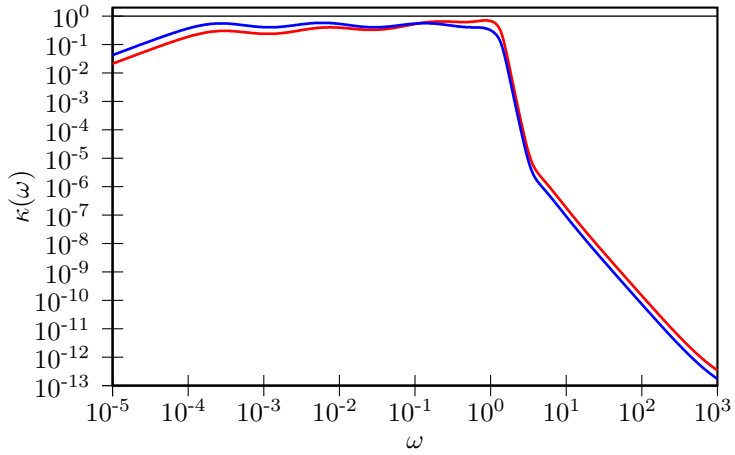
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
1.0000\times10^{-10} & 5.4751\times10^{-01} & 6.8718\times10^{-02} & -4.0507\times10^{-02} & -1.1913\times10^{-02} & 1.8382\times10^{-02} & -1.8327\times10^{-03} \\
-5.4751\times10^{-01} & 9.2117\times10^{-07} & 5.7038\times10^{-02} & 9.9023\times10^{-01} & 1.9638\times10^{-02} & 3.9871\times10^{-02} & 8.6108\times10^{-02} \\
-6.8718\times10^{-02} & -5.7038\times10^{-02} & 1.2353\times10^{-07} & 1.4628\times10^{-01} & -9.6375\times10^{-04} & 1.9401\times10^{-01} & -2.6046\times10^{-02} \\
4.0507\times10^{-02} & -9.9023\times10^{-01} & -1.4628\times10^{-01} & 5.8949\times10^{-05} & 2.2950\times10^{-02} & 8.4557\times10^{-01} & -7.3931\times10^{-02} \\
1.1913\times10^{-02} & -1.9638\times10^{-02} & 9.6375\times10^{-04} & -2.2950\times10^{-02} & 2.4528\times10^{-03} & -2.5632\times10^{-01} & 7.2224\times10^{-02} \\
-1.8387\times10^{-02} & -3.9871\times10^{-02} & -1.9401\times10^{-01} & -8.4557\times10^{-01} & 2.5632\times10^{-01} & 1.9816\times10^{-01} & 1.1704\times10^{+00} \\
1.8246\times10^{-03} & -8.6108\times10^{-02} & 2.6046\times10^{-02} & 7.3931\times10^{-02} & -7.2224\times10^{-02} & -1.1704\times10^{+00} & 1.0722\times10^{+00}
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $1.0622 \times 10^{+03}$