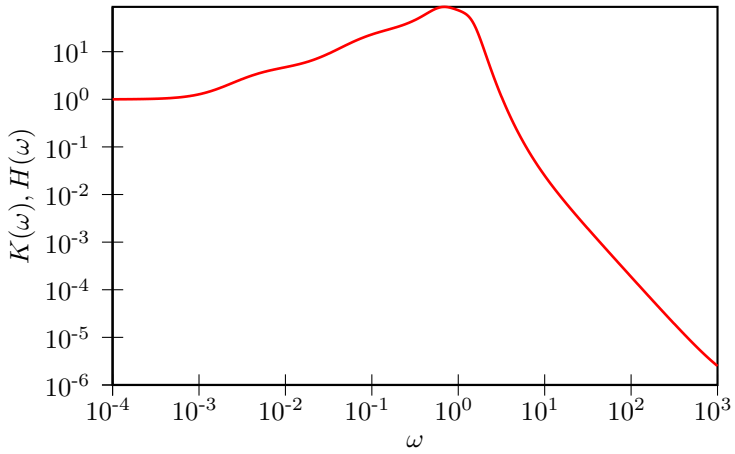
Generalized Langevin Equation analytics

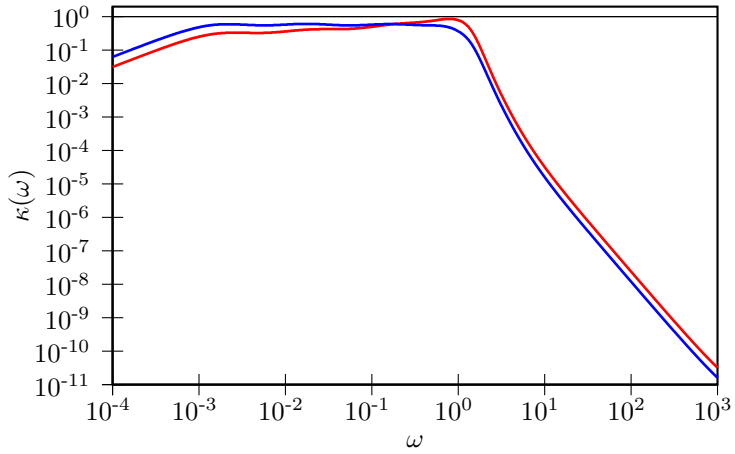
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
4.1458\times10^{-09} & 6.4487\times10^{-01} & -7.8378\times10^{-04} & 5.8239\times10^{-02} & 9.5149\times10^{-03} & 1.1113\times10^{-01} & -6.5639\times10^{-02} \\
-6.4487\times10^{-01} & 3.6654\times10^{-06} & 6.6604\times10^{-02} & 2.7955\times10^{-02} & 9.2593\times10^{-01} & -1.9428\times10^{-01} & -4.6013\times10^{-01} \\
7.8378\times10^{-04} & -6.6604\times10^{-02} & 1.0367\times10^{-05} & -1.0401\times10^{-02} & -2.2727\times10^{-02} & -4.5227\times10^{-02} & -1.5863\times10^{-01} \\
-5.8239\times10^{-02} & -2.7955\times10^{-02} & 1.0401\times10^{-02} & 1.8065\times10^{-05} & 1.0243\times10^{-01} & 1.0681\times10^{-01} & 2.1477\times10^{-01} \\
-9.5149\times10^{-03} & -9.2593\times10^{-01} & 2.2727\times10^{-02} & -1.0243\times10^{-01} & 2.4462\times10^{-03} & 7.6247\times10^{-02} & 1.0055\times10^{+00} \\
-1.1113\times10^{-01} & 1.9428\times10^{-01} & 4.5227\times10^{-02} & -1.0681\times10^{-01} & -7.6247\times10^{-02} & 4.3037\times10^{-01} & -8.3131\times10^{-01} \\
6.5640\times10^{-02} & 4.6013\times10^{-01} & 1.5863\times10^{-01} & -2.1477\times10^{-01} & -1.0055\times10^{+00} & 8.3131\times10^{-01} & 1.5176\times10^{+00}
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $1.5700 \times 10^{+02}$