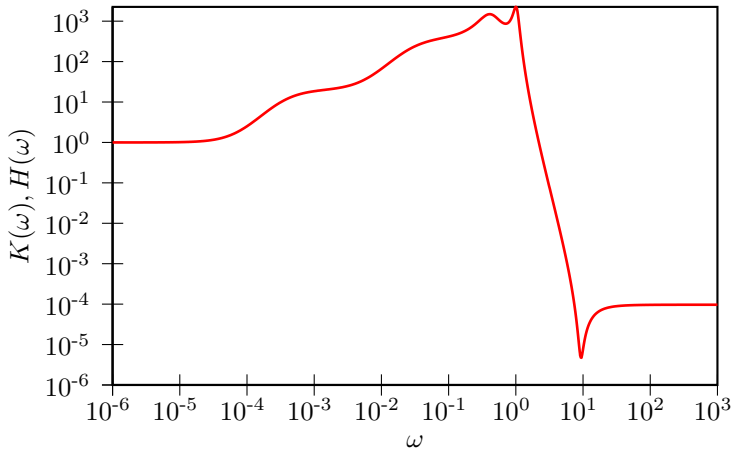
Generalized Langevin Equation analytics

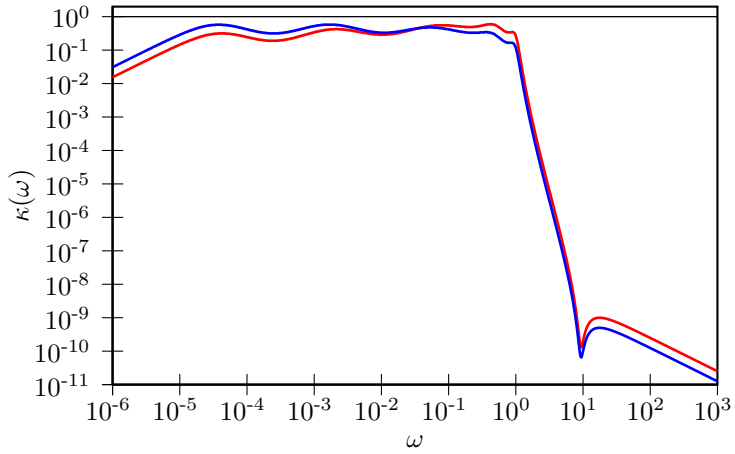
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
1.2536\times10^{-08} & 3.2553\times10^{-01} & 4.5700\times10^{-02} & -8.7264\times10^{-04} & 8.0178\times10^{-03} & 1.5967\times10^{-04} & 1.9453\times10^{-03} \\
-3.2553\times10^{-01} & 5.3064\times10^{-08} & -1.3837\times10^{-03} & 4.6689\times10^{-03} & 7.5991\times10^{-01} & 3.4711\times10^{-02} & 1.4738\times10^{-02} \\
-4.5700\times10^{-02} & 1.3837\times10^{-03} & 2.9896\times10^{-06} & -1.8622\times10^{-03} & 1.1161\times10^{-01} & 5.2047\times10^{-03} & 5.4948\times10^{-02} \\
8.7260\times10^{-04} & -4.6689\times10^{-03} & 1.8622\times10^{-03} & 1.1952\times10^{-04} & 1.1665\times10^{-02} & 5.8702\times10^{-03} & -1.8602\times10^{-01} \\
-8.0168\times10^{-03} & -7.5991\times10^{-01} & -1.1161\times10^{-01} & -1.1665\times10^{-02} & 1.5131\times10^{-04} & 4.3936\times10^{-03} & 6.5015\times10^{-01} \\
-1.0331\times10^{-04} & -3.4711\times10^{-02} & -5.2047\times10^{-03} & -5.8702\times10^{-03} & -4.3936\times10^{-03} & 2.1612\times10^{-01} & -4.3761\times10^{-01} \\
-1.8440\times10^{-03} & -1.4738\times10^{-02} & -5.4948\times10^{-02} & 1.8602\times10^{-01} & -6.5015\times10^{-01} & 4.3761\times10^{-01} & 3.6816\times10^{-01}
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $7.7074 \times 10^{+03}$