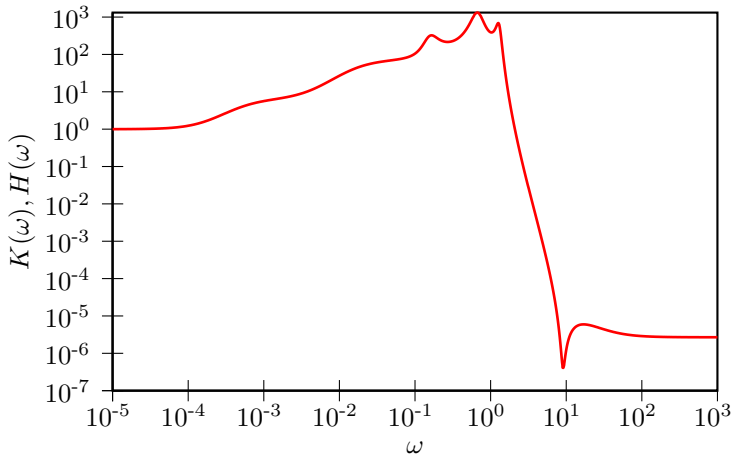
Generalized Langevin Equation analytics

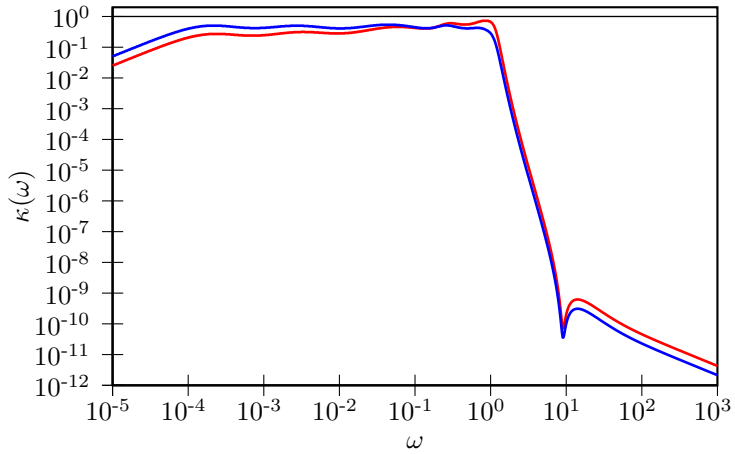
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
2.1366\times10^{-09} & 6.1128\times10^{-01} & 3.6921\times10^{-02} & -2.7097\times10^{-03} & 2.8806\times10^{-03} & 1.2619\times10^{-03} & 4.2679\times10^{-03} & 5.0590\times10^{-04} & 1.84 \\
-6.1128\times10^{-01} & 5.4398\times10^{-09} & 7.1387\times10^{-02} & -4.2232\times10^{-02} & 3.0790\times10^{-01} & 7.3503\times10^{-01} & 1.2525\times10^{-01} & 3.7876\times10^{-01} & 3.85 \\
-3.6921\times10^{-02} & -7.1387\times10^{-02} & 1.0363\times10^{-06} & 9.5029\times10^{-02} & -2.0117\times10^{-02} & -4.1874\times10^{-01} & -4.2715\times10^{-01} & -1.0062\times10^{-01} & -7.75 \\
2.7096\times10^{-03} & 4.2232\times10^{-02} & -9.5029\times10^{-02} & 1.5261\times10^{-05} & -9.4373\times10^{-03} & 7.2972\times10^{-02} & 9.6644\times10^{-02} & 2.3786\times10^{-02} & 1.30 \\
-2.8805\times10^{-03} & -3.0790\times10^{-01} & 2.0117\times10^{-02} & 9.4373\times10^{-03} & 1.3179\times10^{-05} & -5.3202\times10^{-02} & -8.9144\times10^{-02} & -1.0961\times10^{-02} & -6.58 \\
-1.2614\times10^{-03} & -7.3503\times10^{-01} & 4.1874\times10^{-01} & -7.2972\times10^{-02} & 5.3202\times10^{-02} & 5.6281\times10^{-05} & -3.3291\times10^{-01} & 9.0700\times10^{-02} & 3.94 \\
-4.2678\times10^{-03} & -1.2525\times10^{-01} & 4.2715\times10^{-01} & -9.6644\times10^{-02} & 8.9144\times10^{-02} & 3.3291\times10^{-01} & 1.2299\times10^{-04} & 1.5773\times10^{-02} & 4.03 \\
-5.0526\times10^{-04} & -3.7876\times10^{-01} & 1.0062\times10^{-01} & -2.3786\times10^{-02} & 1.0961\times10^{-02} & -9.0700\times10^{-02} & -1.5773\times10^{-02} & 1.4213\times10^{-04} & 1.64 \\
-1.8404\times10^{-03} & -3.8528\times10^{-02} & 7.7502\times10^{-01} & -1.3073\times10^{-01} & 6.5855\times10^{-02} & -3.9419\times10^{-01} & -4.0398\times10^{-01} & -1.6432\times10^{-02} & 5.87
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $1.2613 \times 10^{+03}$