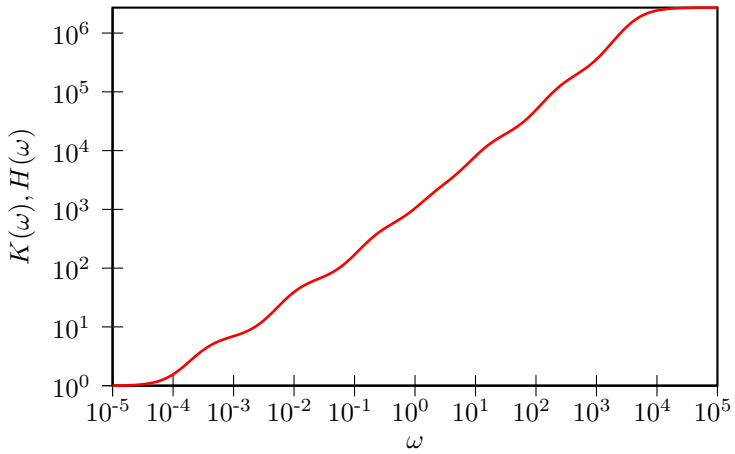
Generalized Langevin Equation analytics

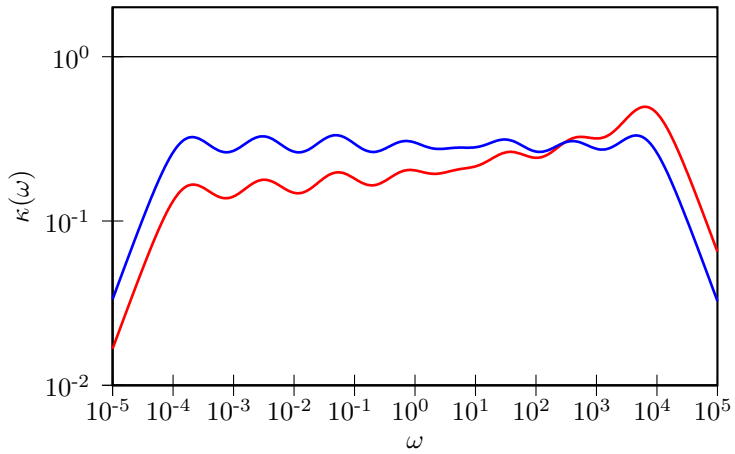
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
3.2695\times10^{+03} & 7.5759\times10^{-04} & 2.5488\times10^{-02} & 3.3427\times10^{-01} & 2.0999\times10^{+00} & -1.6455\times10^{+01} & 2.0957\times10^{+02} & 3.3141\times10^{+03} & 1.02 \\
1.9829\times10^{-03} & 2.9753\times10^{-04} & -2.5744\times10^{-04} & -1.2694\times10^{-04} & 2.1304\times10^{-04} & -1.1025\times10^{-04} & 1.5941\times10^{-03} & -4.2221\times10^{-04} & -3.61 \\
2.5132\times10^{-02} & 2.5744\times10^{-04} & 9.1742\times10^{-03} & -5.3728\times10^{-04} & -8.3762\times10^{-04} & 2.4248\times10^{-03} & 4.8753\times10^{-04} & -5.2111\times10^{-04} & 1.68 \\
3.4107\times10^{-01} & 1.2694\times10^{-04} & 5.3728\times10^{-04} & 1.9624\times10^{-01} & -8.1055\times10^{-04} & -1.4638\times10^{-04} & -1.0067\times10^{-05} & -1.1367\times10^{-03} & 4.44 \\
2.1413\times10^{+00} & -2.1304\times10^{-04} & 8.3762\times10^{-04} & 8.1055\times10^{-04} & 1.8883\times10^{+00} & 4.9270\times10^{-04} & -3.5509\times10^{-04} & -1.9910\times10^{-04} & 4.38 \\
-1.6499\times10^{+01} & 1.1025\times10^{-04} & -2.4248\times10^{-03} & 1.4638\times10^{-04} & -4.9270\times10^{-04} & 1.4279\times10^{+01} & 5.3864\times10^{-03} & 6.4587\times10^{-04} & -3.04 \\
2.0975\times10^{+02} & -1.5941\times10^{-03} & -4.8753\times10^{-04} & 1.0067\times10^{-05} & 3.5509\times10^{-04} & -5.3864\times10^{-03} & 2.1776\times10^{+02} & 1.2796\times10^{-03} & 4.80 \\
3.3117\times10^{+03} & 4.2221\times10^{-04} & 5.2111\times10^{-04} & 1.1367\times10^{-03} & 1.9910\times10^{-04} & -6.4587\times10^{-04} & -1.2796\times10^{-03} & 3.6157\times10^{+03} & -9.13 \\
1.0027\times10^{+03} & 3.6169\times10^{-06} & -1.6809\times10^{-01} & -4.4423\times10^{-01} & -4.3893\times10^{+00} & 3.0431\times10^{+00} & -4.8086\times10^{+00} & 9.1382\times10^{+00} & 1.01
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $8.3713 \times 10^{+02}$