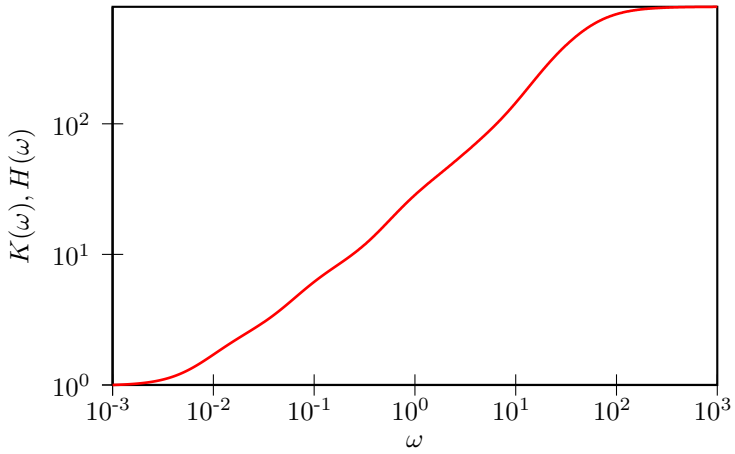
# Generalized Langevin Equation analytics

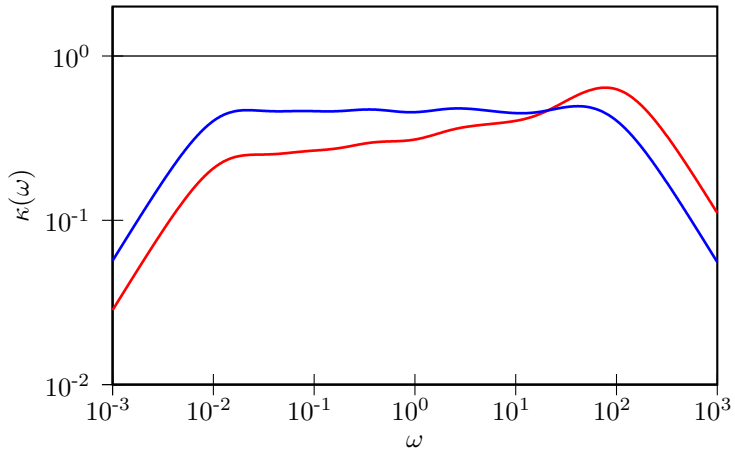
- **Drift matrix $\mathbf{A}_p$:**

$$\begin{pmatrix}
5.5894\times10^{+01} & 1.6570\times10^{-03} & 3.0896\times10^{-02} & -6.6266\times10^{-01} & 3.3237\times10^{+00} & 1.8054\times10^{+01} & 4.0791\times10^{+01} \\
2.3078\times10^{-02} & 3.8468\times10^{-03} & 4.7167\times10^{-03} & 6.6174\times10^{-02} & 1.0557\times10^{-01} & -8.1400\times10^{-02} & 1.5487\times10^{-01} \\
1.4223\times10^{-01} & -4.7167\times10^{-03} & 5.4647\times10^{-02} & 1.2921\times10^{-01} & 9.1754\times10^{-02} & 2.5699\times10^{-01} & 1.3639\times10^{-02} \\
-1.8621\times10^{+00} & -6.6174\times10^{-02} & -1.2921\times10^{-01} & 7.0896\times10^{-01} & 4.9780\times10^{-01} & -3.1597\times10^{-01} & -3.6135\times10^{-01} \\
3.1905\times10^{+00} & -1.0557\times10^{-01} & -9.1754\times10^{-02} & -4.9780\times10^{-01} & 3.5633\times10^{+00} & -4.8541\times10^{-01} & -1.8288\times10^{-01} \\
2.0535\times10^{+01} & 8.1400\times10^{-02} & -2.5699\times10^{-01} & 3.1597\times10^{-01} & 4.8541\times10^{-01} & 1.9425\times10^{+01} & 1.3904\times10^{+00} \\
3.7952\times10^{+01} & -1.5487\times10^{-01} & -1.3639\times10^{-02} & 3.6135\times10^{-01} & 1.8288\times10^{-01} & -1.3904\times10^{+00} & 4.9481\times10^{+01}
\end{pmatrix}$$

- **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. $(mD/k_B T)$:** $1.4261 \times 10^{+01}$