# GENERALIZED LANGEVIN EQUATION ANALYTICS

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

$$
\begin{pmatrix}
2.4680\times10^{+01} & 3.6185\times10^{-02} & 1.5298\times10^{+00} & -4.8330\times10^{+00} & 3.0756\times10^{+01} \\
-3.6909\times10^{-02} & 1.1408\times10^{-05} & 9.5810\times10^{-02} & -2.6338\times10^{-02} & 5.6286\times10^{-02} \\
-1.9677\times10^{+00} & -9.5810\times10^{-02} & 1.8038\times10^{-01} & 6.8350\times10^{-01} & -1.3265\times10^{+00} \\
-1.3766\times10^{+00} & 2.6338\times10^{-02} & -6.8350\times10^{-01} & 3.5386\times10^{+00} & 1.5273\times10^{+00} \\
2.8935\times10^{+01} & -5.6286\times10^{-02} & 1.3265\times10^{+00} & -1.5273\times10^{+00} & 4.1088\times10^{+01}
\end{pmatrix}
$$

- **Fluctuation-Dissipation theorem is enforced, $\mathbf{C}_p = k_B T$**

- **Memory kernel FT, $K(\omega)/K(0) = H(\omega)/H(0)$**
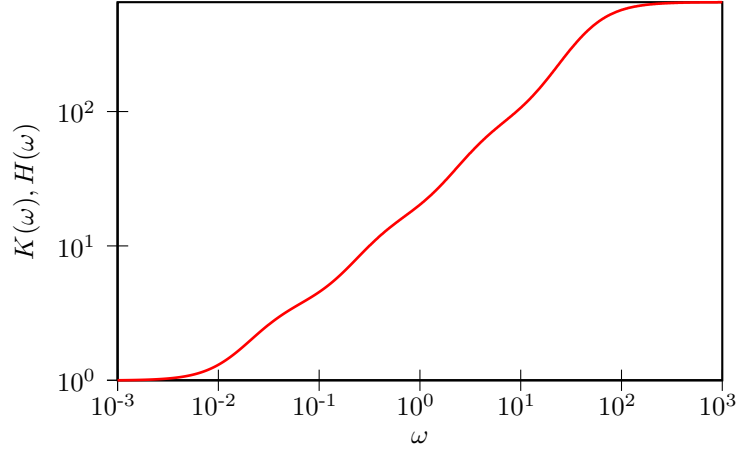
- **Sampling efficiency, for q^2 and $p^2 + \omega^2 q^2$:**
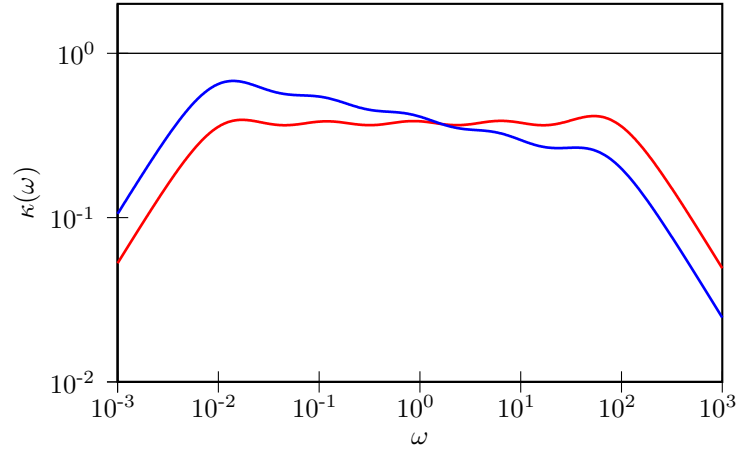
- **Free-particle diffusion coeff. $(mD/k_B T)$: $2.6511 \times 10^{+01}$**