# GENERALIZED LANGEVIN EQUATION ANALYTICS

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

$$
\begin{pmatrix}
6.1412\times10^{+01} & 4.9250\times10^{-02} & -1.4972\times10^{-01} & -3.8469\times10^{+00} & 4.6169\times10^{+01} \\
6.5517\times10^{-04} & 5.8812\times10^{-03} & -5.1794\times10^{-02} & -7.2935\times10^{-02} & -1.4635\times10^{-02} \\
1.1862\times10^{+00} & 5.1794\times10^{-02} & 2.5454\times10^{-01} & 2.3754\times10^{-02} & 4.4620\times10^{-01} \\
-4.0176\times10^{+00} & 7.2935\times10^{-02} & -2.3754\times10^{-02} & 2.8387\times10^{+00} & 8.7289\times10^{-02} \\
4.5537\times10^{+01} & 1.4635\times10^{-02} & -4.4620\times10^{-01} & -8.7289\times10^{-02} & 3.8365\times10^{+01}
\end{pmatrix}
$$

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

- **Memory kernel FT, $K(\omega)/K(0) = H(\omega)/H(0)$**
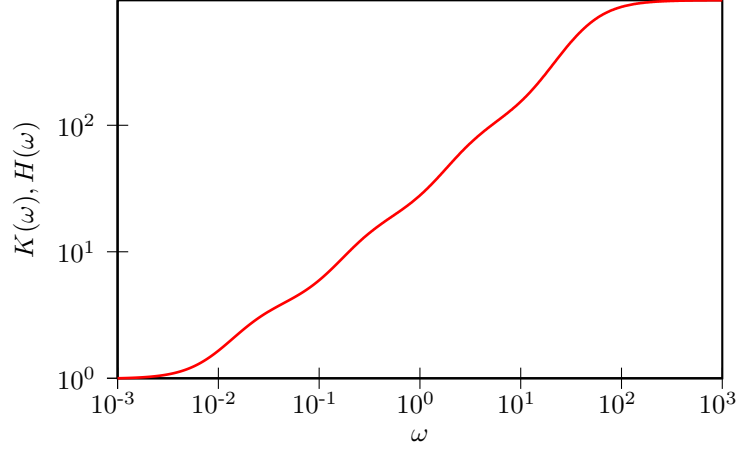
- **Sampling efficiency, for q^2 and $p^2 + \omega^2 q^2$:**
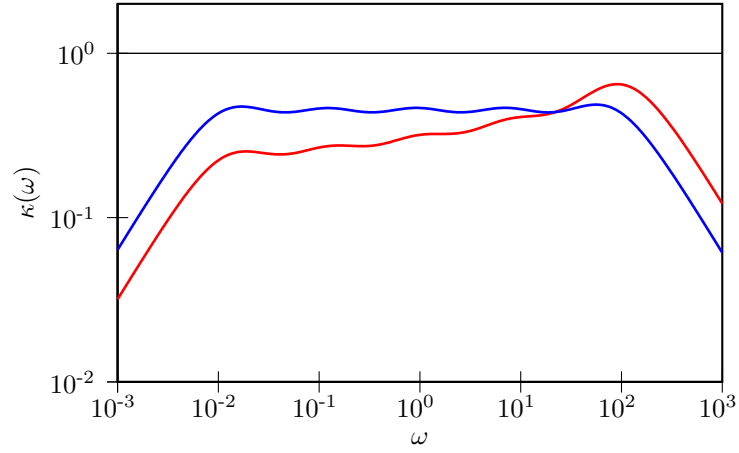
- **Free-particle diffusion coeff. $(mD/k_B T)$: $1.5998 \times 10^{+01}$**