# Generalized Langevin Equation analytics

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

$$\begin{pmatrix} 5.6365\times10^{-07} & 5.5621\times10^{-02} & 3.1090\times10^{-01} & 1.3757\times10^{-01} & 3.9498\times10^{-04} \\ -5.5620\times10^{-02} & 5.2431\times10^{-06} & -2.2692\times10^{-02} & 1.2796\times10^{-01} & 9.9701\times10^{-03} \\ -3.1090\times10^{-01} & 2.2692\times10^{-02} & 5.5993\times10^{-05} & 7.5354\times10^{-01} & -6.1865\times10^{-01} \\ -1.3757\times10^{-01} & -1.2796\times10^{-01} & -7.5354\times10^{-01} & 2.3051\times10^{-04} & 2.8932\times10^{-01} \\ -2.0357\times10^{-03} & -9.9701\times10^{-03} & 6.1865\times10^{-01} & -2.8932\times10^{-01} & 1.2199\times10^{+00} \end{pmatrix}$$

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

- **Memory kernel FT, $K(\omega)/K(0) = H(\omega)/H(0)$**
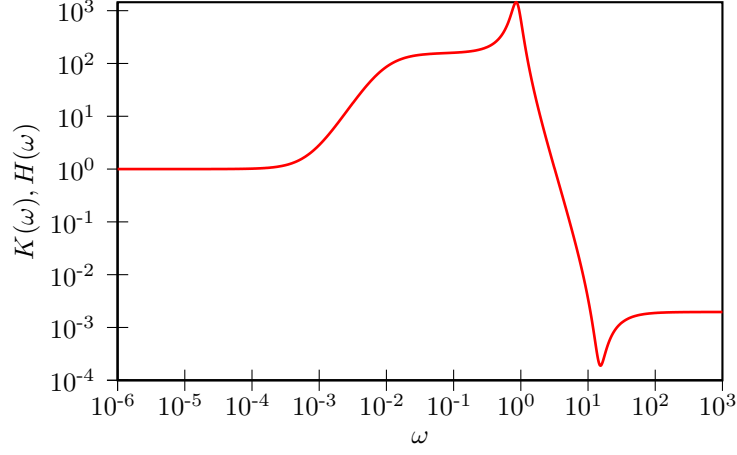
- **Sampling efficiency, for q^2 and $p^2 + \omega^2 q^2$:**
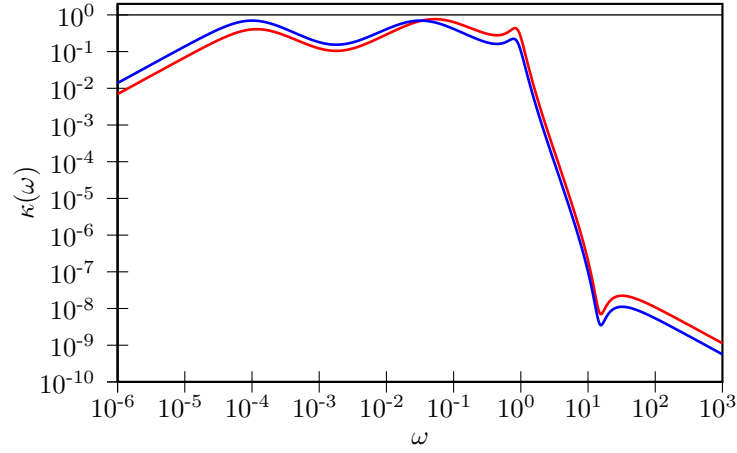
- **Free-particle diffusion coeff. $(mD/k_B T)$:** $3.4857 \times 10^{+03}$