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

$$\begin{pmatrix}
1.0000 \times 10^{-10} & 7.1601 \times 10^{-02} & 3.6573 \times 10^{-01} & 3.6466 \times 10^{-01} & 1.1378 \times 10^{-01} \\
-7.1601 \times 10^{-02} & 5.2692 \times 10^{-05} & 1.7096 \times 10^{-01} & 2.1806 \times 10^{-02} & -5.3179 \times 10^{-03} \\
-3.6573 \times 10^{-01} & -1.7096 \times 10^{-01} & 1.5476 \times 10^{-03} & -7.5584 \times 10^{-01} & -4.7422 \times 10^{-01} \\
-3.6467 \times 10^{-01} & -2.1806 \times 10^{-02} & 7.5584 \times 10^{-01} & 1.8882 \times 10^{-01} & -7.9508 \times 10^{-01} \\
-1.1379 \times 10^{-01} & 5.3179 \times 10^{-03} & 4.7422 \times 10^{-01} & 7.9508 \times 10^{-01} & 2.4590 \times 10^{+00}
\end{pmatrix}$$

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

- **Memory kernel FT, $K(\omega)/K(0) = H(\omega)/H(0)$**
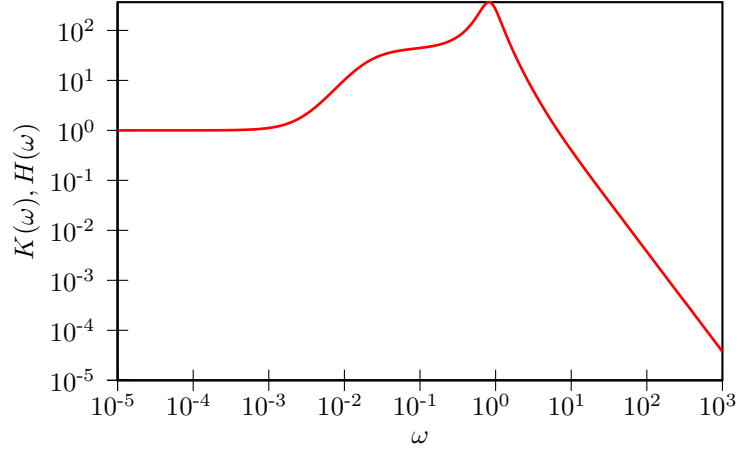
- **Sampling efficiency, for q^2 and $p^2 + \omega^2 q^2$:**
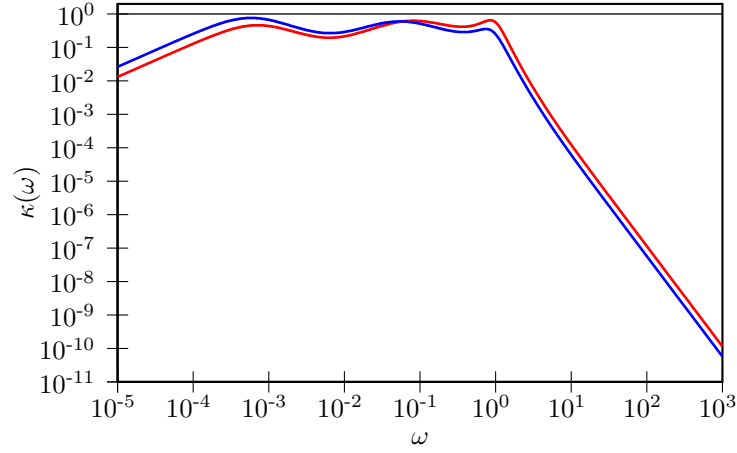
- **Free-particle diffusion coeff. $(mD/k_B T)$:** $6.5551 \times 10^{+02}$