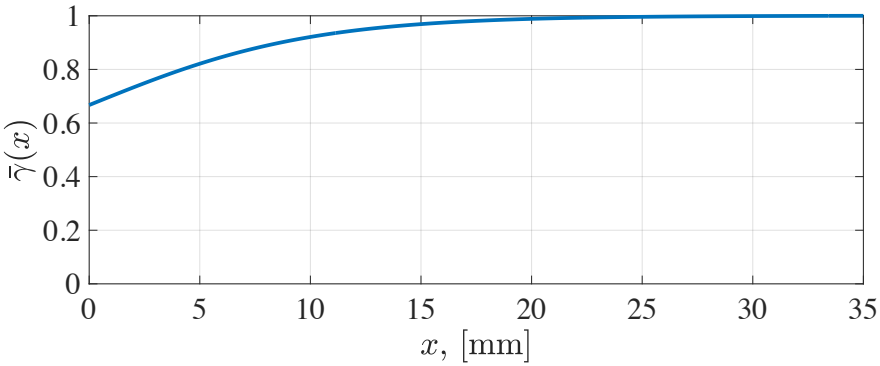
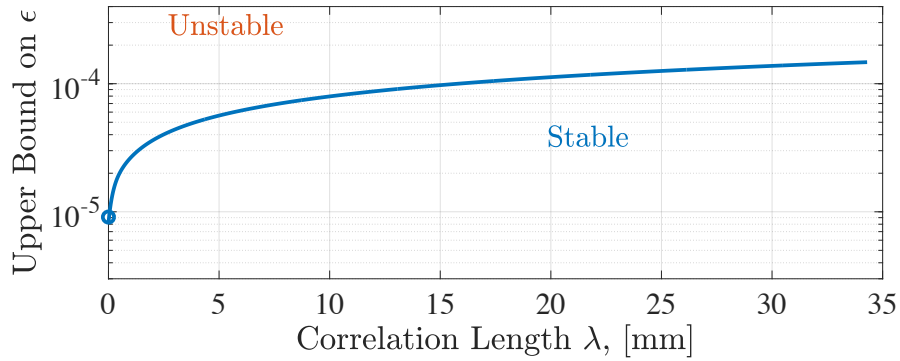
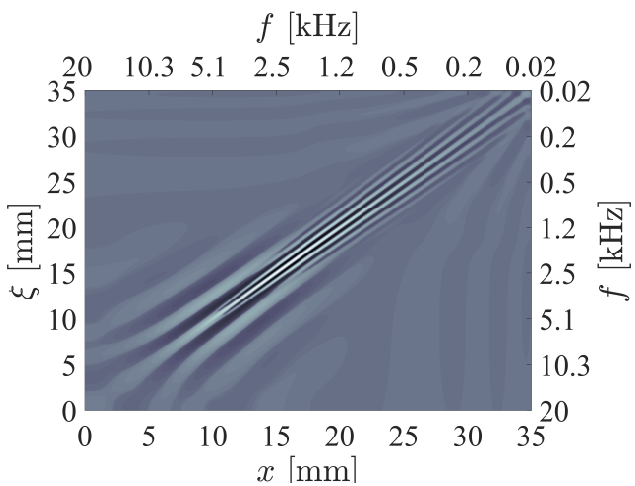
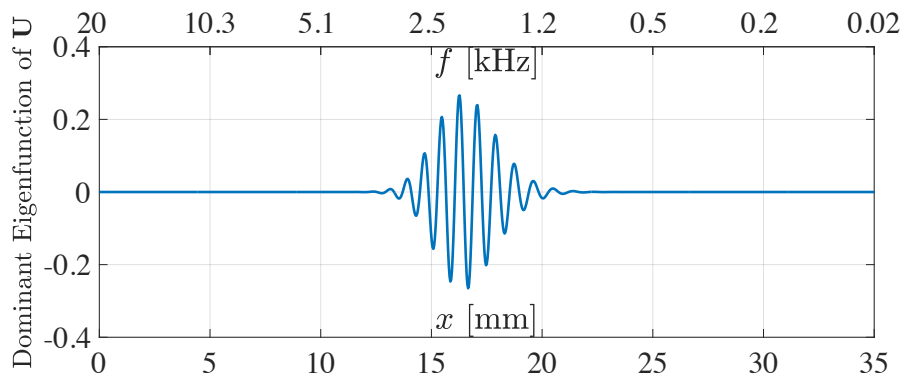
$\gamma(x,t) = \bar{\gamma}(x) + \tilde{\gamma}(x,t)$ Covariance: $\mathbb{E}\left[\tilde{\gamma}(x,t)\tilde{\gamma}(\xi,\tau)\right] = \frac{\epsilon^2}{\lambda\sqrt{2\pi}} e^{\frac{(x-\xi)^2}{2\lambda^2}} \delta(t-\tau)$







$\mathbf{U}(x,\xi)$: worst case covariance of membrane displacement



1st eigenfunction of $\mathbf{U}(x,\xi)$ (1st term in K-L expansion)