

## 1 Filter equations

Temporal impulse response:

$$h(t) = \sin(2\pi t)t^2 e^{-3.5t}$$

Spectral transfer function:

$$\begin{aligned} h(f) &= \frac{f^2}{\mu^2} e^{(1 - \frac{f^2}{\mu^2})} \\ &= \frac{f^2}{\mu^2} e^{\frac{(\mu^2 - f^2)}{\mu^2}} \end{aligned}$$