Kernel

Radial Basis Function (RBF)

$$\widetilde{K}(x_1 - x_2) = \sigma^2 \exp\left(-\frac{(x_1 - x_2)^2}{2l^2}\right)$$

length-scale

Rational Quadratic

$$\widetilde{K}(x_1 - x_2) = \sigma^2 \left(1 + \frac{(x_1 - x_2)^2}{2\alpha l^2}\right)^{-\alpha}$$

White noise

$$\widetilde{K}(x_1 - x_2) = \sigma^2 \delta(x_1 - x_2)$$