$$f_j \sim \mathcal{GP}(0, \kappa_j(\cdot, \cdot)) \rightarrow p(\mathbf{f}|\boldsymbol{\theta}_0) = \prod_{j=1}^{Q} p(\mathbf{f}_{\bullet j}|\boldsymbol{\theta}_0) = \prod_{j=1}^{Q} \mathcal{N}(\mathbf{f}_{\bullet j}; \mathbf{0}, \mathbf{K}_j)$$

Covariance function of *j*[th] GP

All *NxQ* latent function values

Covariance Hyper-parameters

All *N* latent values for function *j*

Covariance matrix induced by κ_j

$$p(\mathbf{y}|\mathbf{f}, \boldsymbol{\theta}_1) = \prod_{n=1}^{N} p(\mathbf{y}_n|\mathbf{f}_{n\bullet}, \boldsymbol{\theta}_1)$$

Cond. Likelihood parameters

Observations and latent functions for data-point *n*