

Issues associated with parametric approach

- 1 High-quality models
- 2 Model approximations
  - 2.1 Linear Regression
  - 2.2 Polynomial Regression
  - 2.3 Ridge Regression etc
- 3 Noise incorporation issue
- 4 Convergence issue in time-varying uncertainty
- 5 Overfitting issue

Work with small data

Require relatively small  
no. of design decisions

Model prediction contains  
confidence interval for  
control and fault detection

Work with noisy data

Nonparametric Approach  
i.e. **Gaussian process**

**Solution**