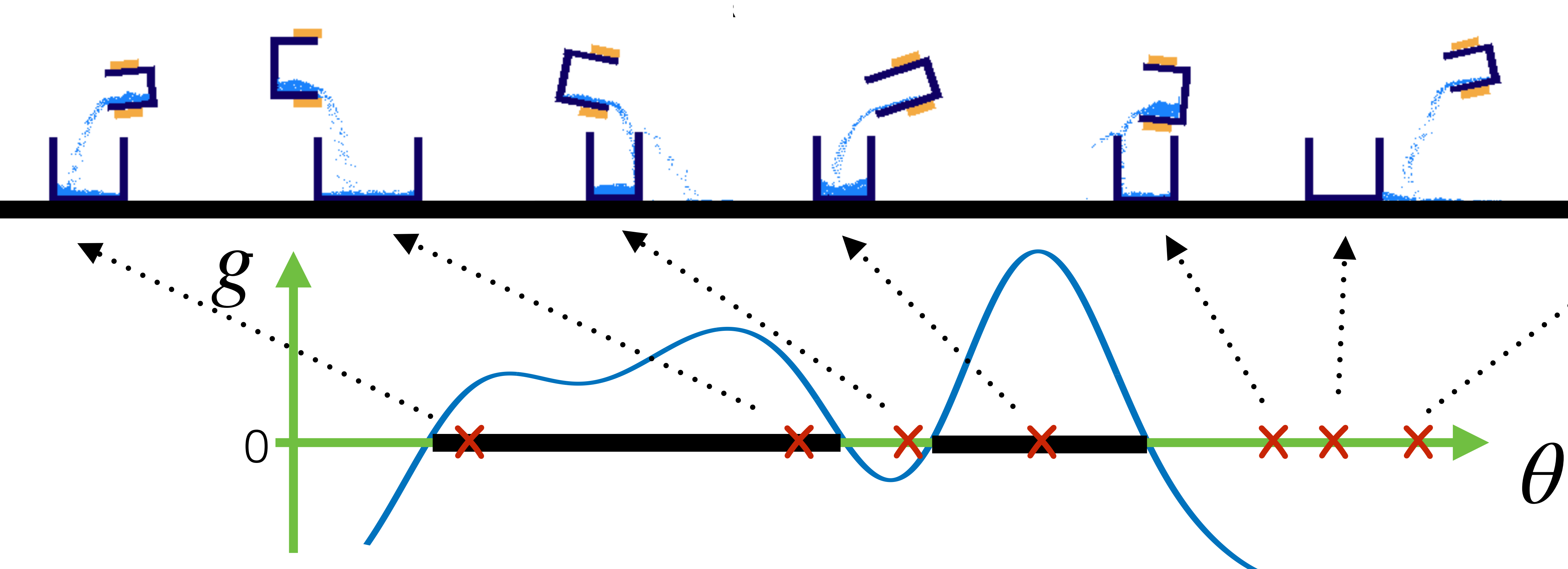
Learning constraints with few samples

- Real robot experiments or high fidelity simulations are expensive
- How to actively select what parameters to test?



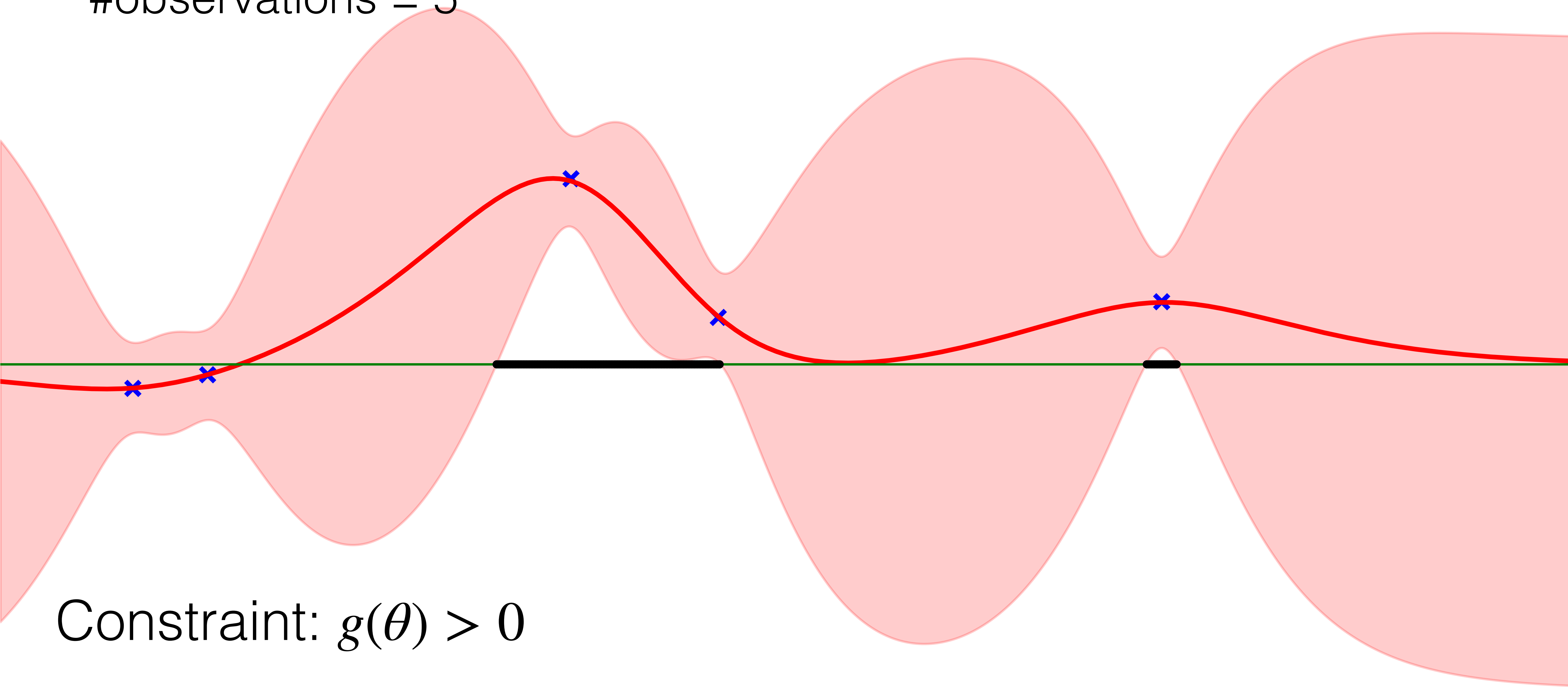
Modeling constraints with Gaussian processes

mean function $\mu(\theta)$

confidence interval $\mu(\theta) \pm 2\sigma(\theta)$

observation $(\theta_i, g(\theta_i))$

#observations = 5



Constraint: $g(\theta) > 0$