

1. Screening Analysis

**Initial
Set of
Parameters**

Morris
Factorial Sampling

$$\text{Runs} = N_R \times (D + 1)$$
$$N_R \sim 10^1 - 10^2$$

Sobol'-Saltelli
Sampling

$$\text{Runs} = N_S \times (D + 2)$$
$$N \sim 10^2 - 10^3$$



Features
Extraction

- Max. clad temperature
- Time of quenching
- Time-averaged clad temperature
- etc.

Noninfluential
Parameters

Importance Ranking

- Elementary effect
- Total effect

Influential
Parameters

2. Variance Decomposition

Monte Carlo
Estimation

KL
Transform

Functional Data Analysis

Registration



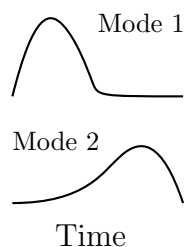
Sobol'-Saltelli
Sampling

$$\text{Runs} = N_S \times (D + 2)$$
$$N \sim 10^3 - 10^4$$

**Set of
Sensitivity
Indices**

- Main effect
- Total effect

Functional
variations



Distribution of
Scores

