Deterministic Risk Prediction with Reduced Basis Methods

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- Risk Prediction involves finding Domain of Failure
- Tool: probabilistic sampling (e.g. MCMC)
- But: sampling is expensive.

$$f(v) = a(u, v; y) = a_0(u, v) + \sum_{j=1}^{\infty} y_j \, a_j(u, v), \qquad \|a_j\| \searrow 0$$

- Tools: cut-off error/Reduced Basis Methods/Smoothness
- $\rightarrow$ exclude ∞-dimensional subsets! free RB update!