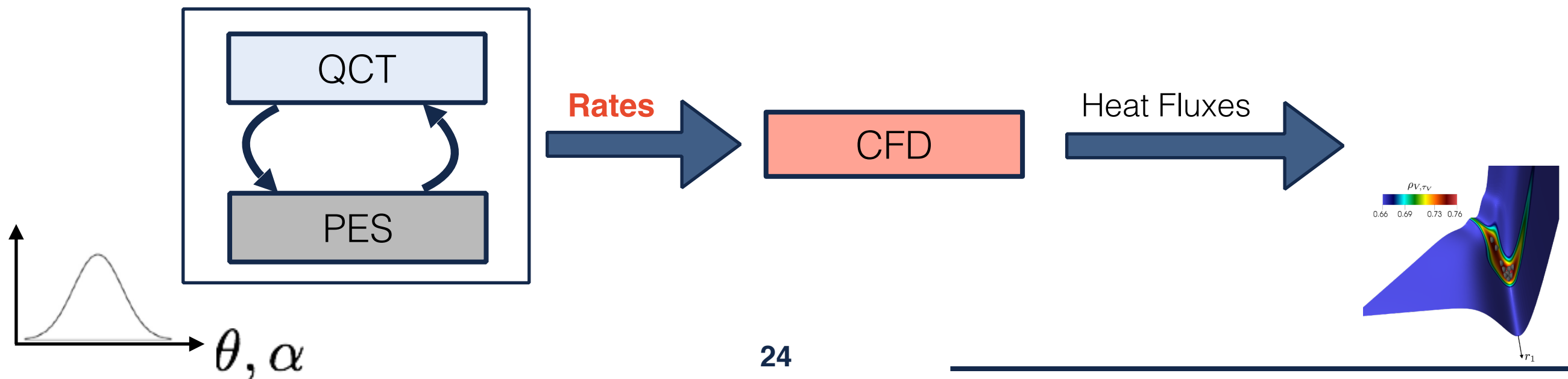


Conclusions

Main steps:

- Identifying the **relevant** sources of uncertainty;
- [Performing (Local (i.e., around nominal values) or Global) Sensitivity Analysis for Parameter Selection];
- Creating a **physics-based non-deterministic** characterization of inadequacies;
- [Constructing surrogate models];
- **Calibrating** Parameters and hyperparameters;
- Performing the **reductions** of the downstream **models (when possible)**;
- **Forward propagating** of the (approximated) posterior distribution;
- **Analyzing the Qols' sensitivity**;
- Conducting **predictive assessment**;
- **Proposing improvements**.



Conclusions

- **The big picture stands out (System Engineering Point of View)**

- **The black boxes must be opened (Scientific Understanding)**

Choices need to be made for:

- Priors
- Inadequacy Models
- Domains of Applicability
- Unknown Unknowns?
- When to Ask for more Data, and What to Ask
- ...

- **The curse of dimensionality is not an enemy (Recall to Efficiency)**

- Sensitivity Analysis
- Code Optimization
- Model Reduction
- ...