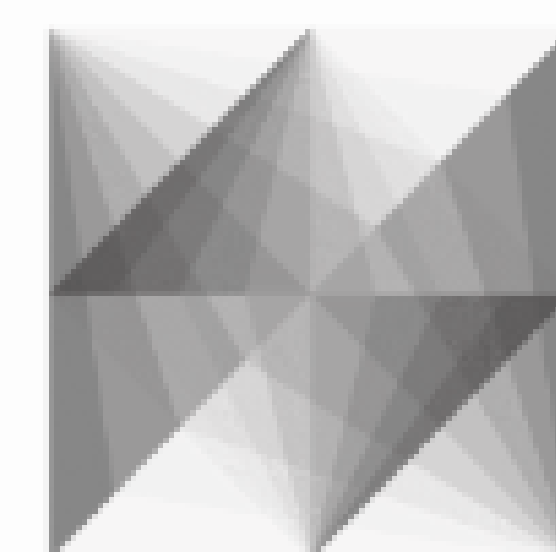




University of
Nottingham

UK | CHINA | MALAYSIA



ENHANCE
Featuring Engineering

Modelling risk of failure using wave propagation and interaction with damage in complex composite structures

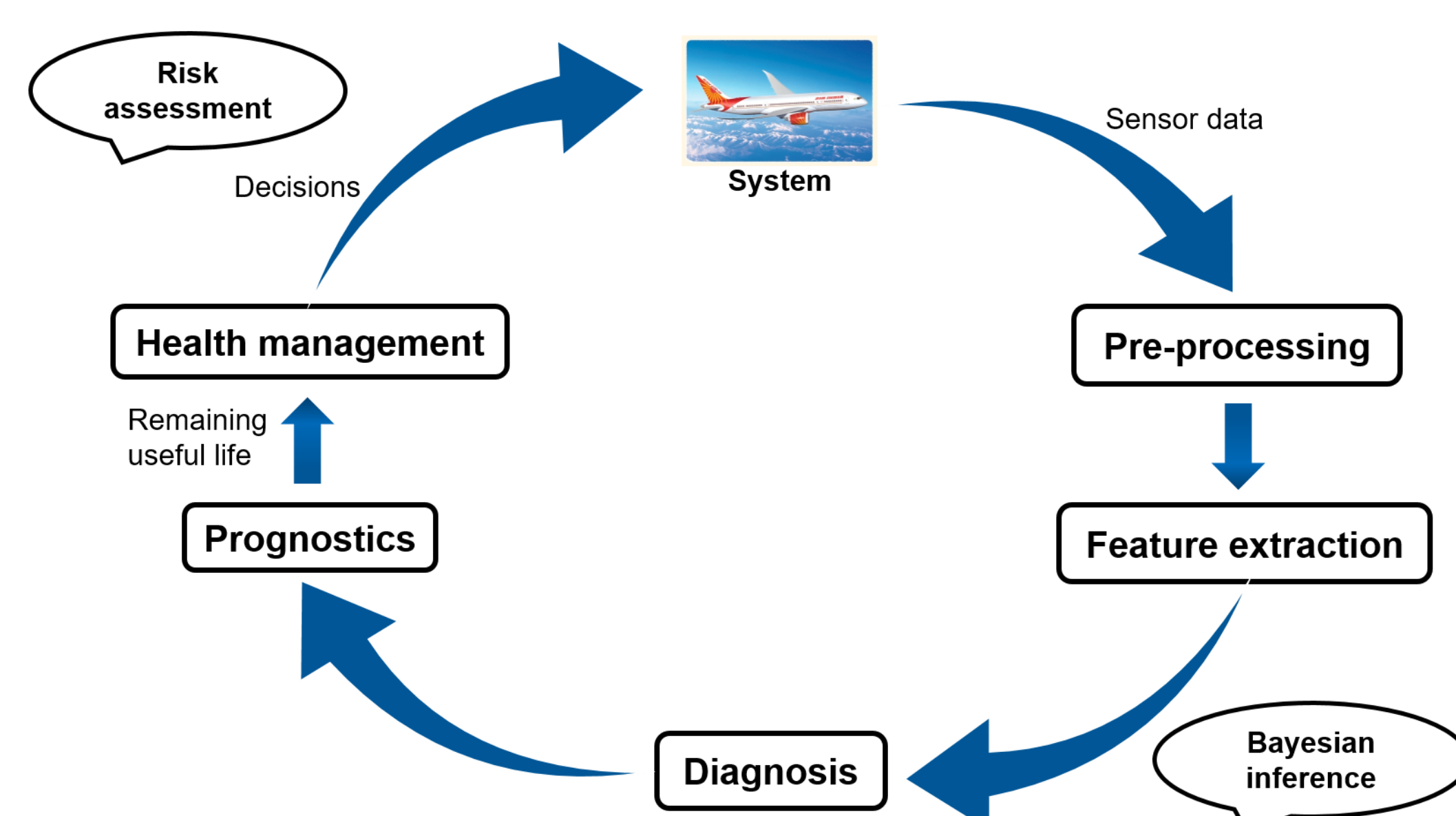
Wen Wu

Supervised by: Dr Rasa Remenyte-Prescott, Dr Darren Prescott, Dr Dimitrios Chronopoulos

Introduction



Happened suddenly without any warning

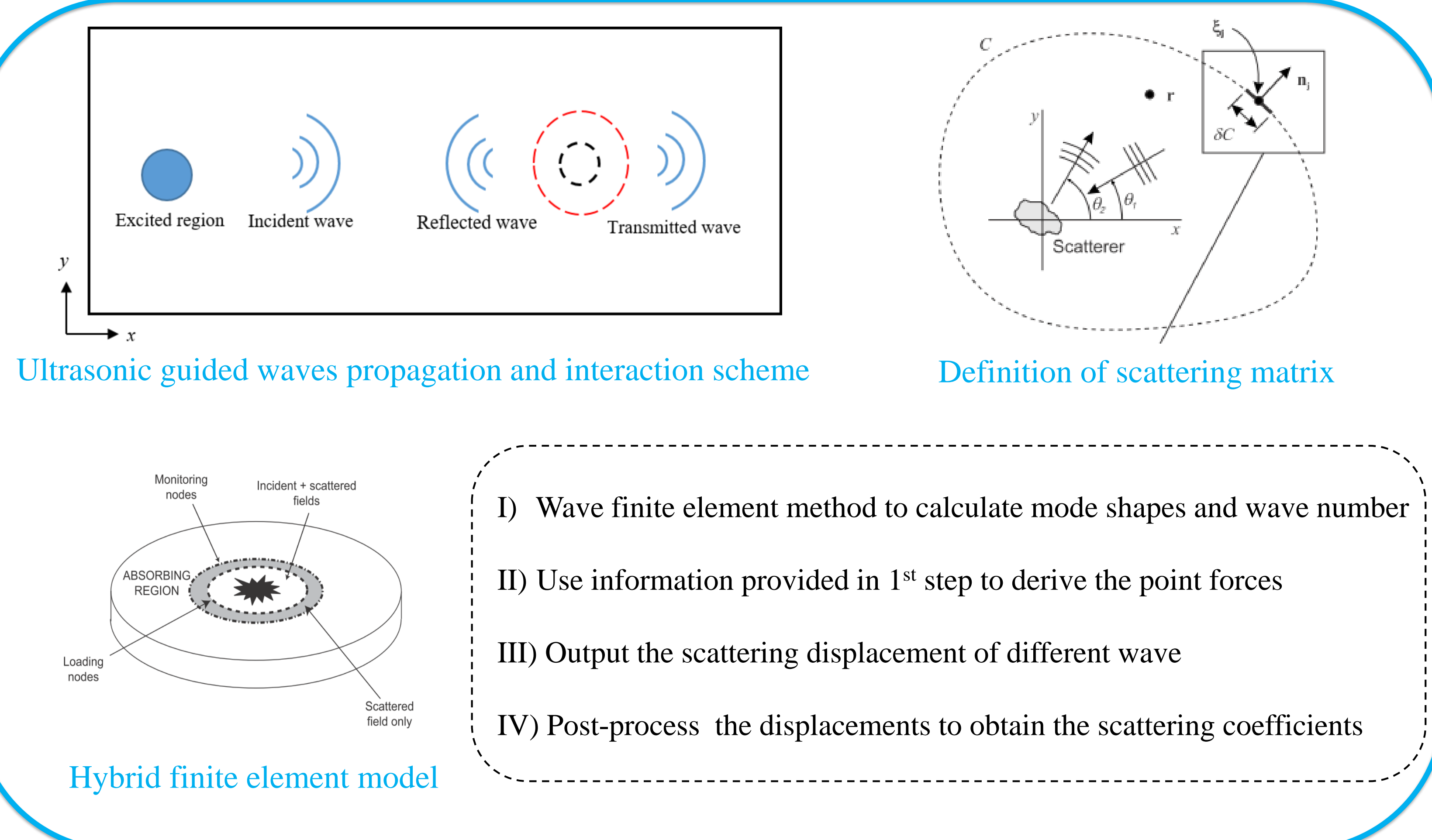


Outline

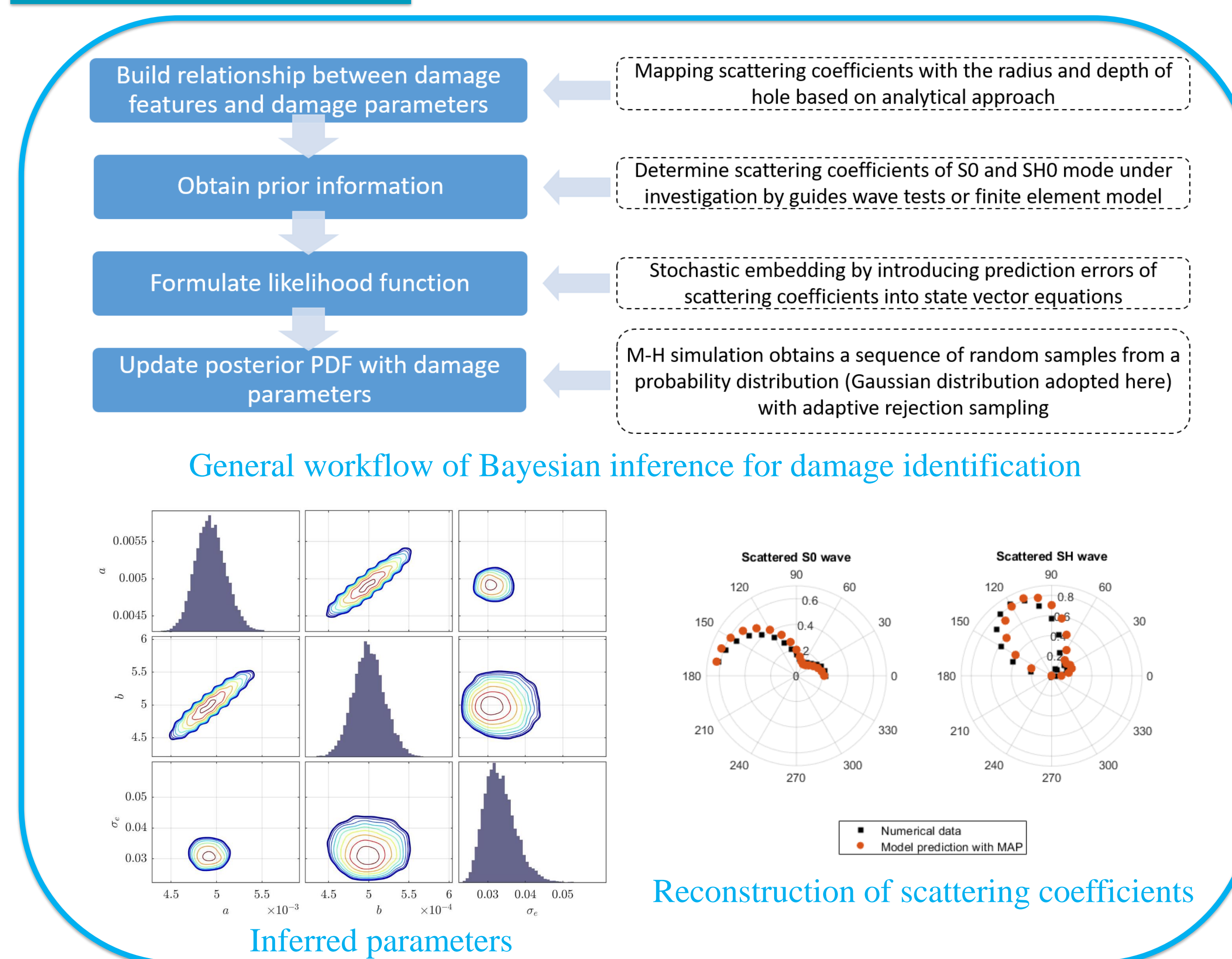
- Formulate guided wave damage interaction model (semi-analytical approach, wave finite element model, hybrid finite element model);
- Develop robust damage identification frameworks for plate like structures and bounded structures through an inverse Bayesian process;
- Combining system-level risk analysis and physics-informed data to model wind turbine blade degradation and maintenance.

Damage identification and risk analysis

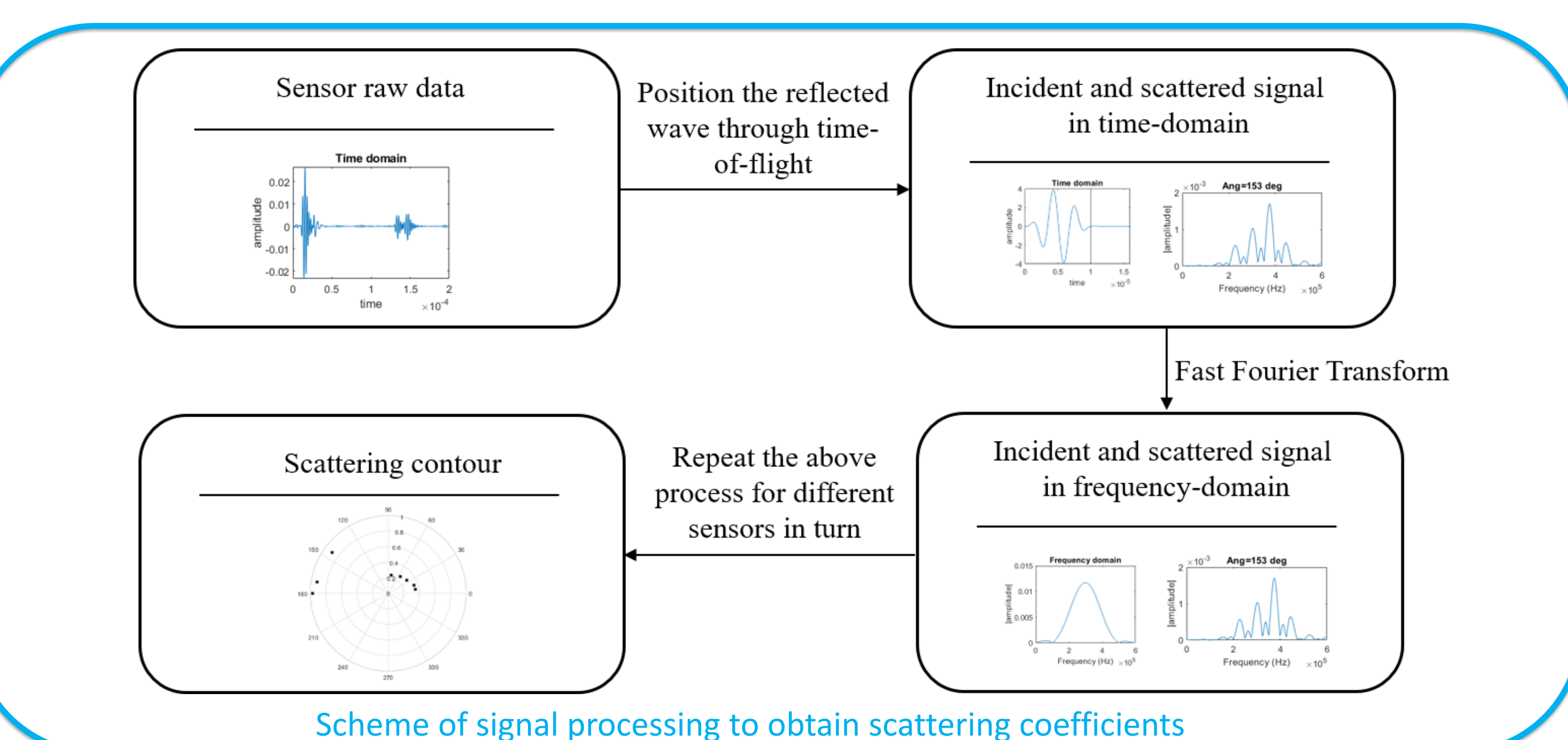
1. Forward problem (physical model)



3. Inverse solution



2. Signal processing



4. Risk analysis

