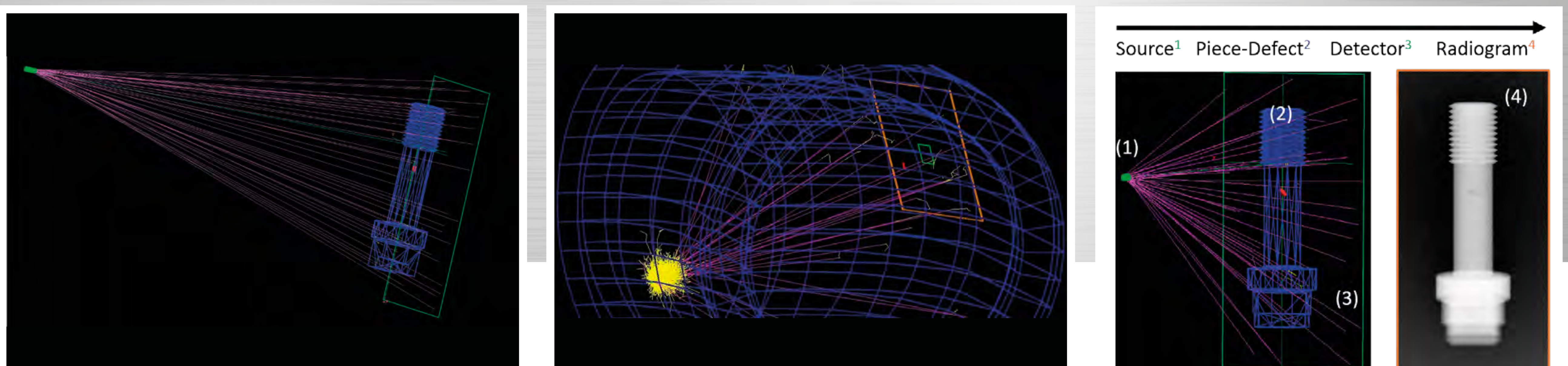


MANDENA 2

Computer modelling of Non Destructive Examination methods

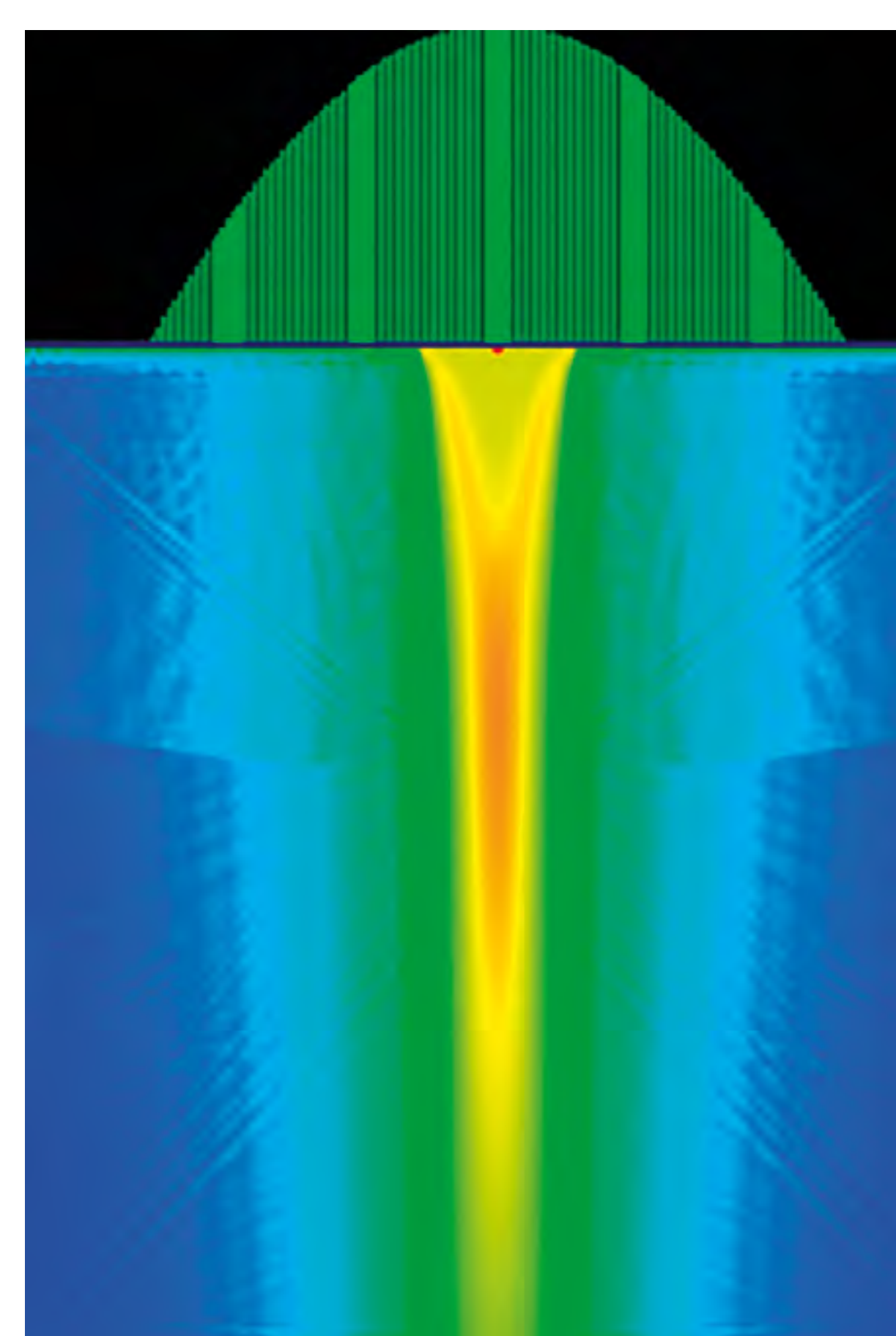
The Mandena-II project aims to accompany the development of Non Destructive Examination (NDE) modeling codes with experimental validation data for realistic defects, as well as cross-code validation using similar software. The NDE techniques covered are radiography, eddy current and ultrasound. The expected outcome of the project is a comprehensive validation test data base for the three NDE modeling codes, as well as a definition of the scope of applicability of the models. Using realistic configurations and by providing a quantitative assessment of the code accuracy for well identified target applications, this enables the end user to use the models appropriately and with the required credibility for performance demonstrations of NDE applications.



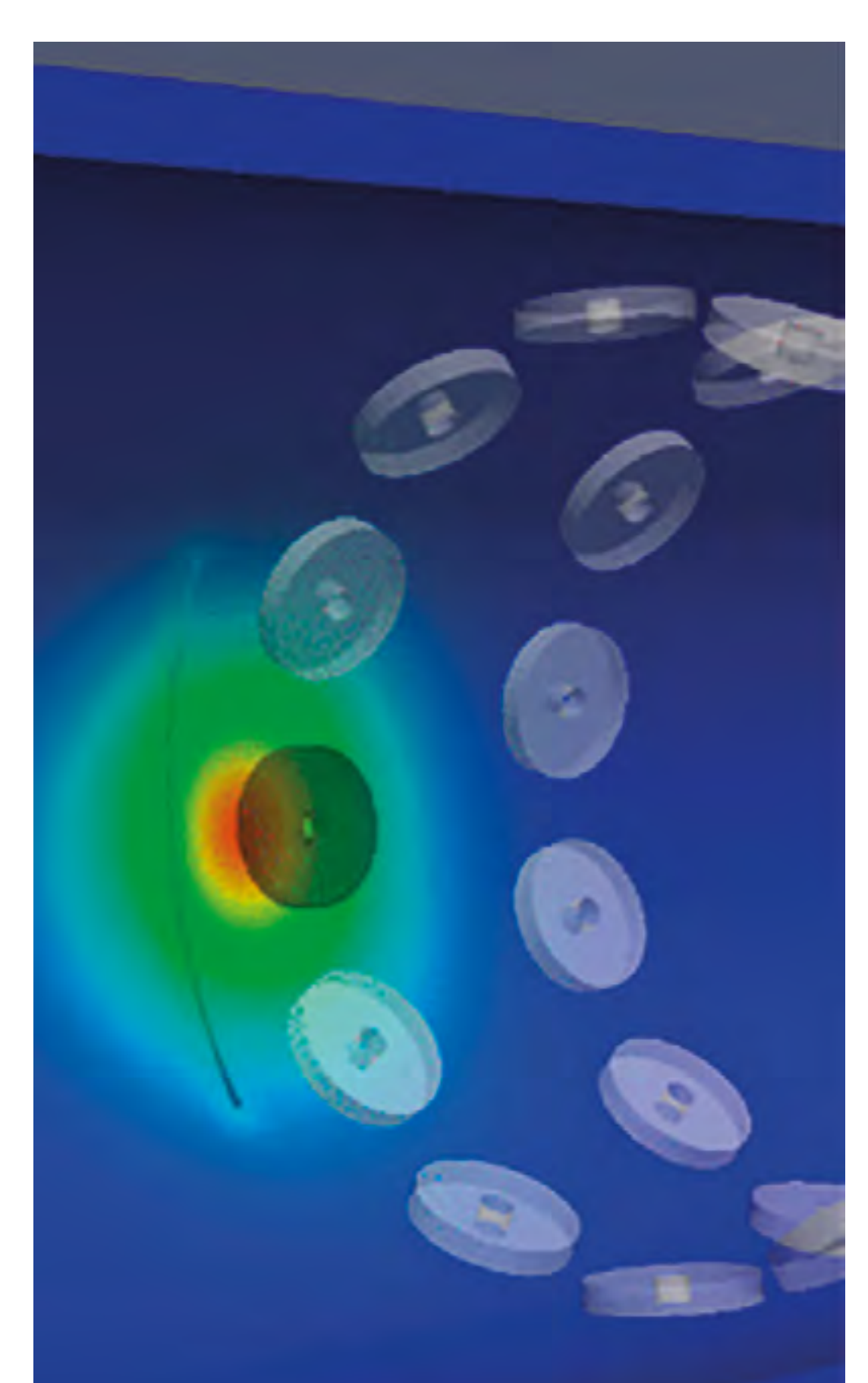
Geometric sight in MODERATO containing the radiographic source, the piece to be inspected and the film (left), simulated radiography (right).

Specific issues dealt with in the project are:

- Computer modeling of ultrasonic sound propagation in strongly heterogeneous structures, such as welds and cast austenitic stainless steel, based on available material characterizations using EBSD (electron backscatter diffraction) or macrograph techniques.
- Modeling to evaluate the performance of the +Point eddy current probe for longitudinal and circumferential defects in steam generator tubes.
- Automatic assessment of defect visibility in images produced by computer modeling of radiographic testing of pipe welds with radioisotope sources and silver film.



Athena



C3D

Throughout the project, two releases of each code will be made available to and assessed by EPRI.

EDF also provides training sessions for the codes, which are open to MAI members.