

EXTREMA

Enhanced X-ray Tomographic Reconstruction: Experiment, Modeling and Algorithms

Objectives

- To establish an active, interdisciplinary research network that bridges the gap between the experimental X-ray tomography community and the mathematical image reconstruction community
- To enable the development of next generation X-ray tomography techniques and algorithms for absorption, phase, diffraction, and fluorescence contrast imaging.
- To establish a common source of information on this interdisciplinary topic, providing datasets, computational models, software, etc.
- To organize Training Events aimed specifically at familiarizing junior experimentalists with the advanced reconstruction concepts and tools of the mathematical community, and similarly, training events aimed at familiarizing junior algorithm researchers with the actual experiments.

Working Groups

- W1: Software and data exchange
- W2: Quantitative modeling
- W3: Algorithm development

- T1: Absorption and phase contrast
- T2: Diffraction contrast
- T3: Fluorescence contrast

Main Achievements

The EXTREMA COST Action managed to

- Bring together a new interdisciplinary community of X-ray tomography researchers.
- Create repositories for problems/models/data/algorithms repositories on the topics of 4D tomography, in-vivo phase contrast tomography, and fluorescence contrast tomography, with contributions from many researchers.

Gender Balance and Early Stage Researcher

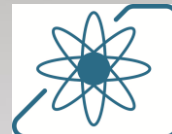
- Objectives:
 - To actively stimulate participation of female researchers throughout the activities of the Action
 - To provide ample opportunities for Early Stage Researchers to obtaining training, present their results and participate in the activities of the Action.
- Status:
 - High degree of ESR participation (40%)
 - Significant number of female researchers (25%)
 - Training schools and STSMs targeted specifically at young researchers

Dissemination

- Common repositories of data and software have been setup:
 - <https://confluence.aps.anl.gov/display/XSD4DIC/Home>
 - <https://confluence.aps.anl.gov/display/XSDIVPCI/Home>
 - <https://confluence.aps.anl.gov/display/XSDXFT/Home>
- Active communication through the Action mailing list
- WG Chairs act as central points for facilitating communication, covering the broad scope of topics

www.cost.eu/mpns

Materials,
Physics &
Nanosciences
(MPNS)



Participating countries: 20

AT, BE, CY, CH, DE, DK, ES, FI, FR,
GR, HU, IT, NL, NO, PL, RS, SE, SK,
TR, UK

Internat. Collaboration:

None

Contact details

Chair of the Action

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Action Website

<http://extrema.ua.ac.be>



EXTREMA: Tomography in Action



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