Computed Tomography workflow
What is the ASTRA Toolbox?

• Developed from 2009, launched in 2012
• Open source, GPL v3
Flexibility

Domain knowhow

Scalability

4D = 3D + time
Tomosynthesis, laminography

Standard CT  ASTRA toolbox

W. Van Aarle, ..., and J. Sijbers, "Fast and Flexible X-ray Tomography Using the ASTRA Toolbox", Optics Express, 24(22), 25129-25147, 2016
4D neutron tomography – fluid dynamics

Why open source?
Why open source?

• Motivation?
  • Science should be open
  • Admiring people who share (valuable) code

• Was it a hard decision?
  • Yes, it was.

• Consequence?
  • You’re forced to think much more carefully about your code
  • Maintenance is an issue (but help from community!)

• Do you regret it?
  • No, not a second!
“Valorization”
Why do you give it away for free?
Well ...

FREE LUNCH!
Academic valorization

• International reputation, recognition
• citations
• Previously unknown research groups wanting to collaborate
• credibility
• Accessibility to other resources (e.g. synchrotrons, GPU cards, ...)

W. Van Aarle, ... J. Sijbers, Ultramicroscopy, 2015
Industrial valorization

• Licenses
• Training, tutorials, MOOC
• Text books, manuals
• Spin-off (?)
• Distribute the generic stuff, keep customized code
Worldwide success

±5000 downloads / year
5 patents US/EU
Thank you

http://www.astra-toolbox.com
  • Download (incl. samples)
  • Documentation
  • Source code

• Training course: visielab.uantwerpen.be/astra-training

• W. Van Aarle et al. "Fast and Flexible X-ray Tomography using the ASTRA Toolbox", Optics Express, 24(22), 25129-25147, (2016)