Contribution ID: **67** Type: **Poster**

Ultrafast Data Post Processing Pipeline for Real-Time Tomographic Imaging at TOMCAT

Thursday, 15 September 2011 12:45 (2 minutes)

At the TOMCAT beamline at the Swiss Light Source, current efforts are focused on the development of a new endstation, devoted to tomographic microscopy with sub-second temporal resolution. Despite the continuous progress in computing technology, fast post processing of the large amount of data produced (up to 10 Gb/s) by this new endstation is, however, still difficult, if not impossible, with standard approaches. New solutions are mandatory to fully exploit advantages provided by this high acquisition speed.
Our current scientific activities focus namely on the development of new strategies for efficient handling and fast post processing of large amount of data to complement the hardware implementation. Until recently most efforts were spent on tomographic reconstruction algorithms, in particular validating Fourier methods as alternatives to the standard Filtered Back-Projection approach. Currently, the rest of the post processing pipeline is also taken into account, with focus on an optimized data format permitting fast I/O, on rapid sinogram generation and the efficient usage of the available computational resources. Our latest solutions and performances will be presented.

Please specify the session

Imaging

Please specify poster or talk

poster

Primary author: Dr MARONE, Federica (SYN-PSI)

Co-authors: STUDER, Alain (AIT-PSI); LOVRIC, Goran (SYN-PSI); Prof. STAMPANONI, Marco (SYN-PSI and Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland); Dr MOKSO, Rajmund (SYN-PSI)

Presenter: Prof. STAMPANONI, Marco (SYN-PSI and Institute for Biomedical Engineering, University and ETH Zurich, Zurich, Switzerland)

Session Classification: Poster session I and lunch

Track Classification: Poster Session I (Thursday)