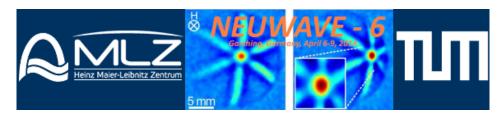Contribution ID: **5**   Type: **not specified**

ARTEFACTS IN NEUTRON CT –THEIR EFFECTS AND HOW TO REDUCE THEM

Tuesday, 8 April 2014 14:30 (30 minutes)

Neutron Computed Tomography has some boundary conditions that are not found in X-ray CT. The intensity of recorded projections is influenced by the buil-up of afterglow of the neutron scintillation screen, the projections of the sample itself often contain additional intensity next to edges which is caused by refraction in the sample. The additional intensity acts like 'negative absorption', i.e. emission close to the sample, which conflicts with the assumptions made for tomography. In the resconstructed CT image, it leads to a halo around the sample which may become so strong that the useable data range for real sample details is strongly reduced if the reconstruction software uses automatic scaling for the use of integer variables.

The talk will present several examples of artefacts and their effects in reconstruction, and show how these can be reduced by simple additional preprocessing of projection data.

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Session Classification: Methods + Software II