

# Planned features of McStas 2.0

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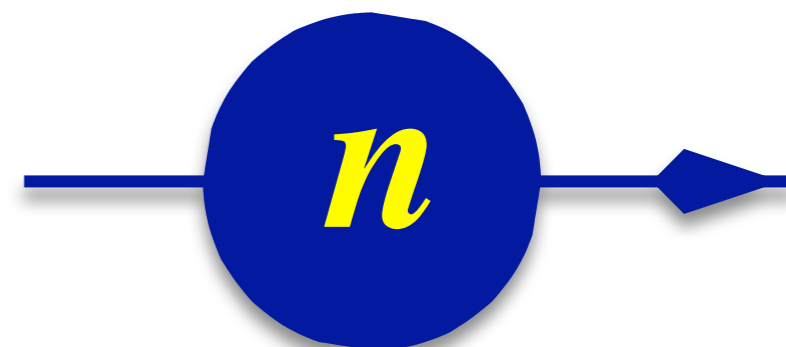
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Erik Knudsen - Risø DTU

Kim Lefmann - Uni Cph



# *McStas*

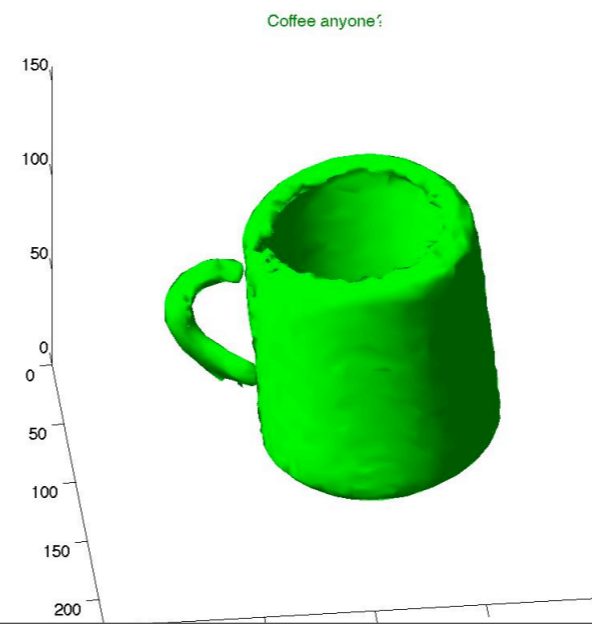


# General package development

- Coherence in parameter naming (breaks backward compatibility)
  - Dimensions:
    - radius, xwidth, yheight, zdepth, thickness
    - w1 h1 w2 h2 l
    - R0 Qc alpha m W
    - length
    - nslit
  - Physical parameters:
    - sigma\_abs, sigma\_inc, sigma\_coh, nu, phase
  - Monte Carlo parameters:
    - p\_interact, focus\_xw, focus\_yh, focus\_aw, focus\_ah
  - Other:
    - filename

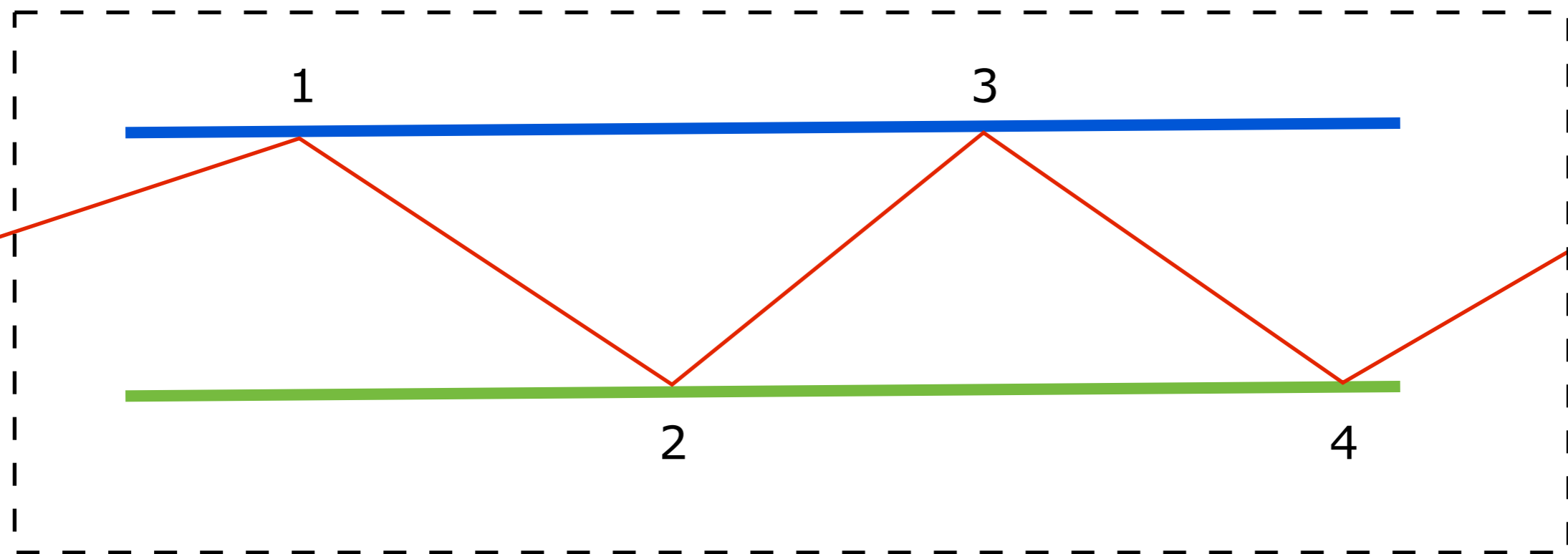
# General package development

- All components will have support for polarization, i.e. handling of the neutron spin.
- Support for tabulated magnetic fields from disc, supplementing existing analytical fields
- All components with extent relevant for gravitational effects will include this
- All sample comps (can also model sample environment etc.) will take shape input from file (geomview .OFF)



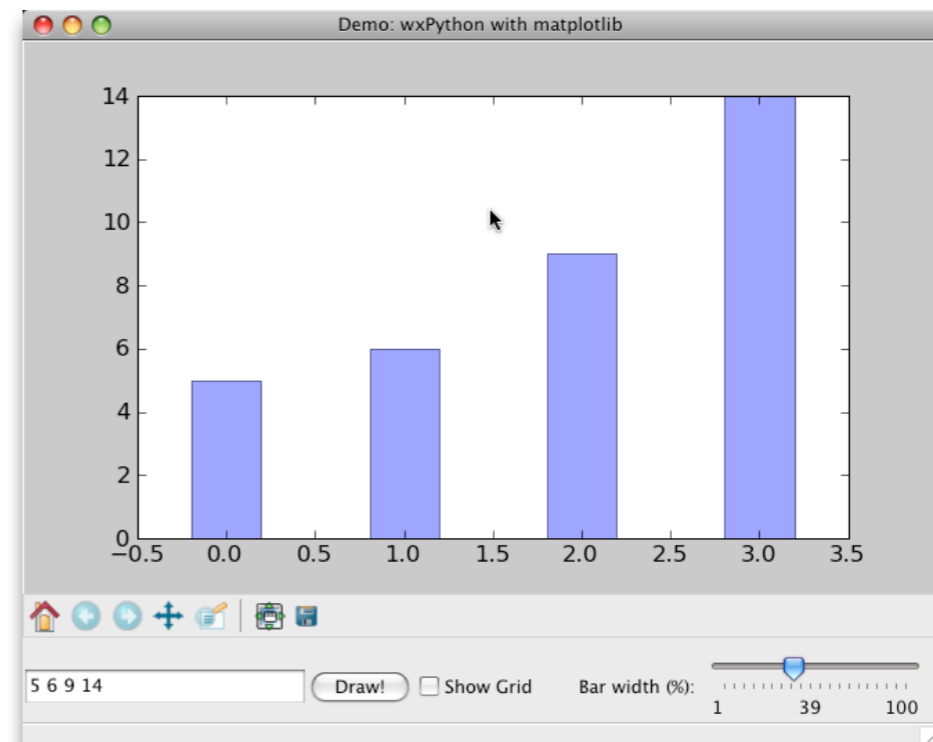
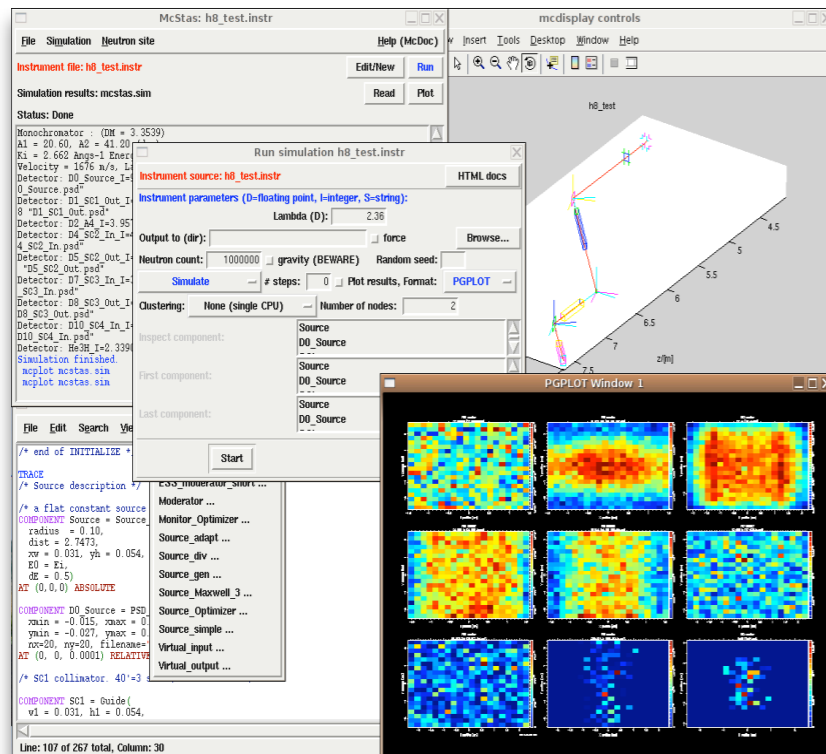
# NOP specific theme

- New language features (or modification of existing keywords) for "mega components" - explicitly wanted by Neutron Optics)



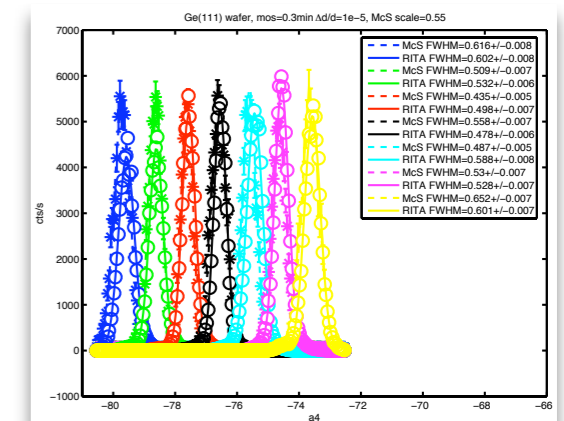
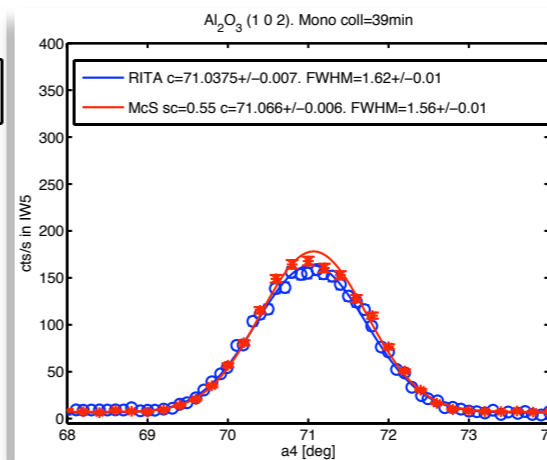
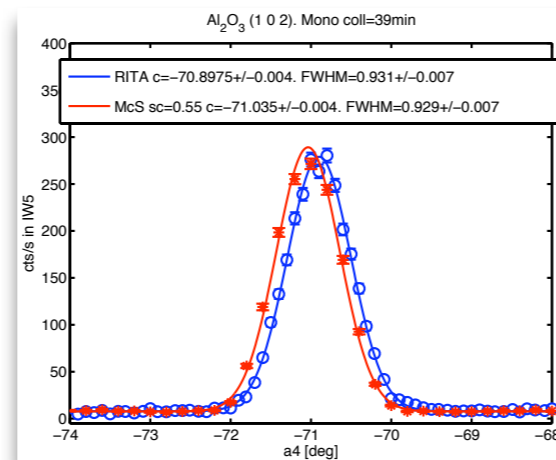
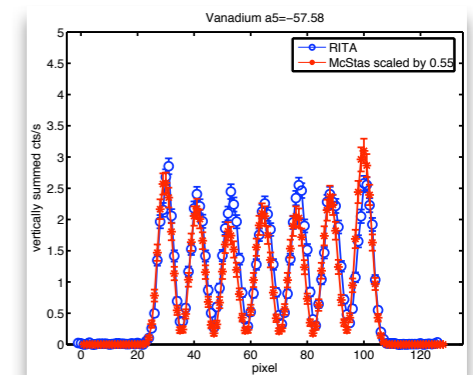
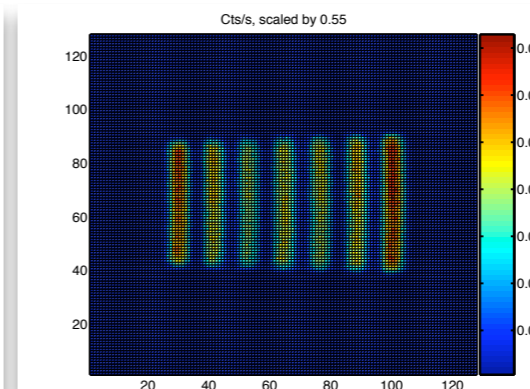
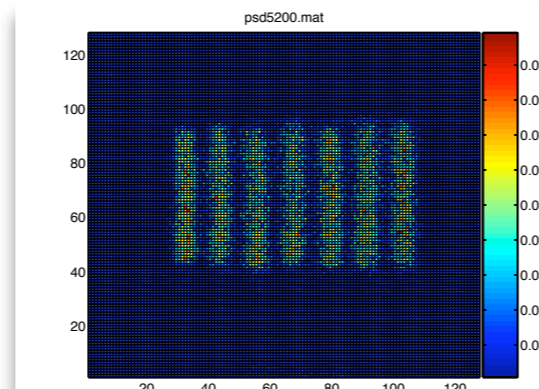
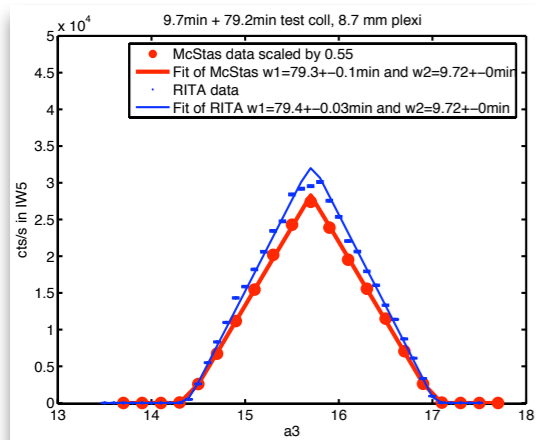
# General package development

- Antiquated gui and plotting based on Perl, Tk, PGPLOT will be exchanged:
  - Likely solution will be
    - Python replacing Perl
    - wxWidgets or Qt replacing Tk (native widgets on all platforms)
    - matplotlib (used in many other Scientific softwares)



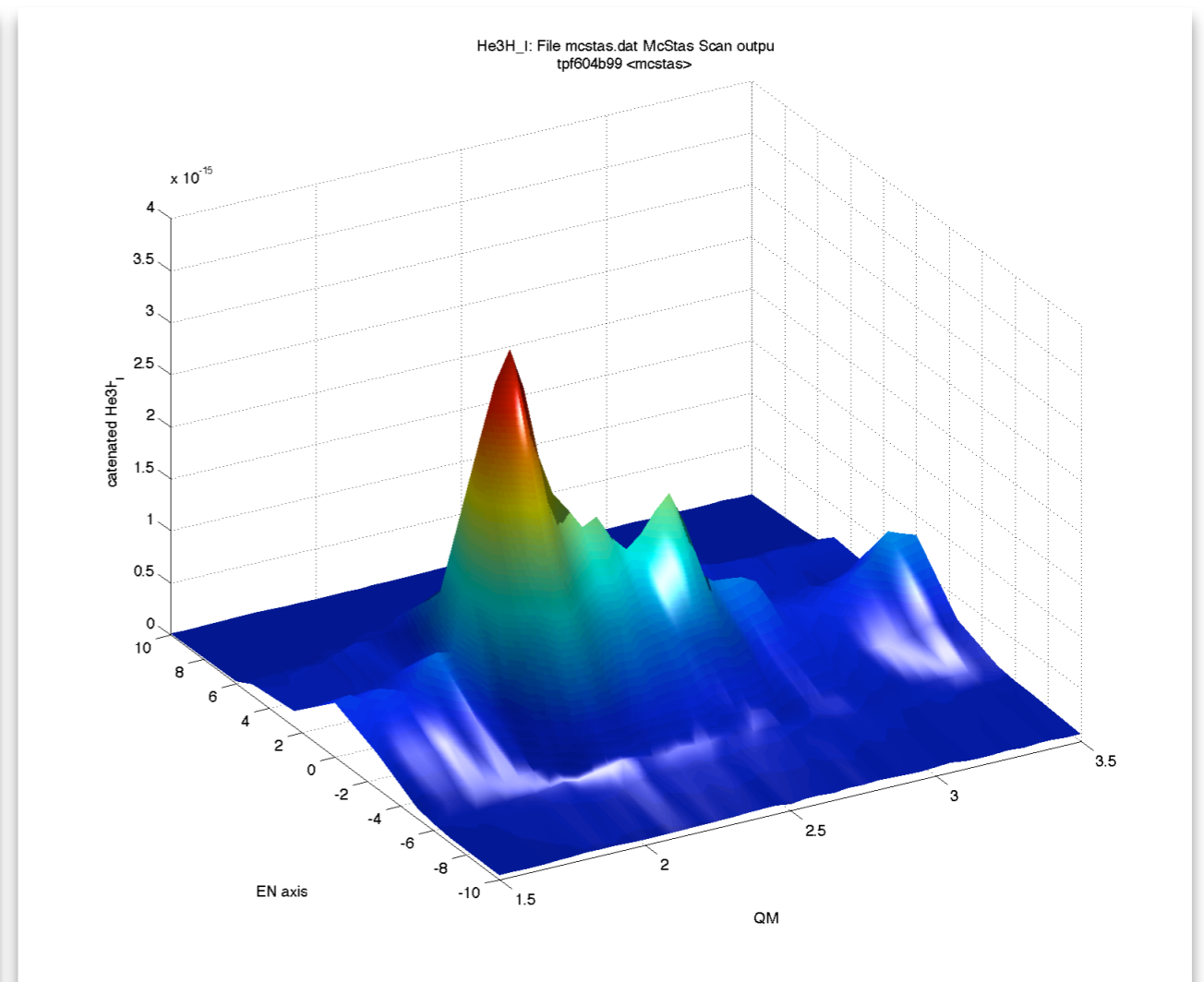
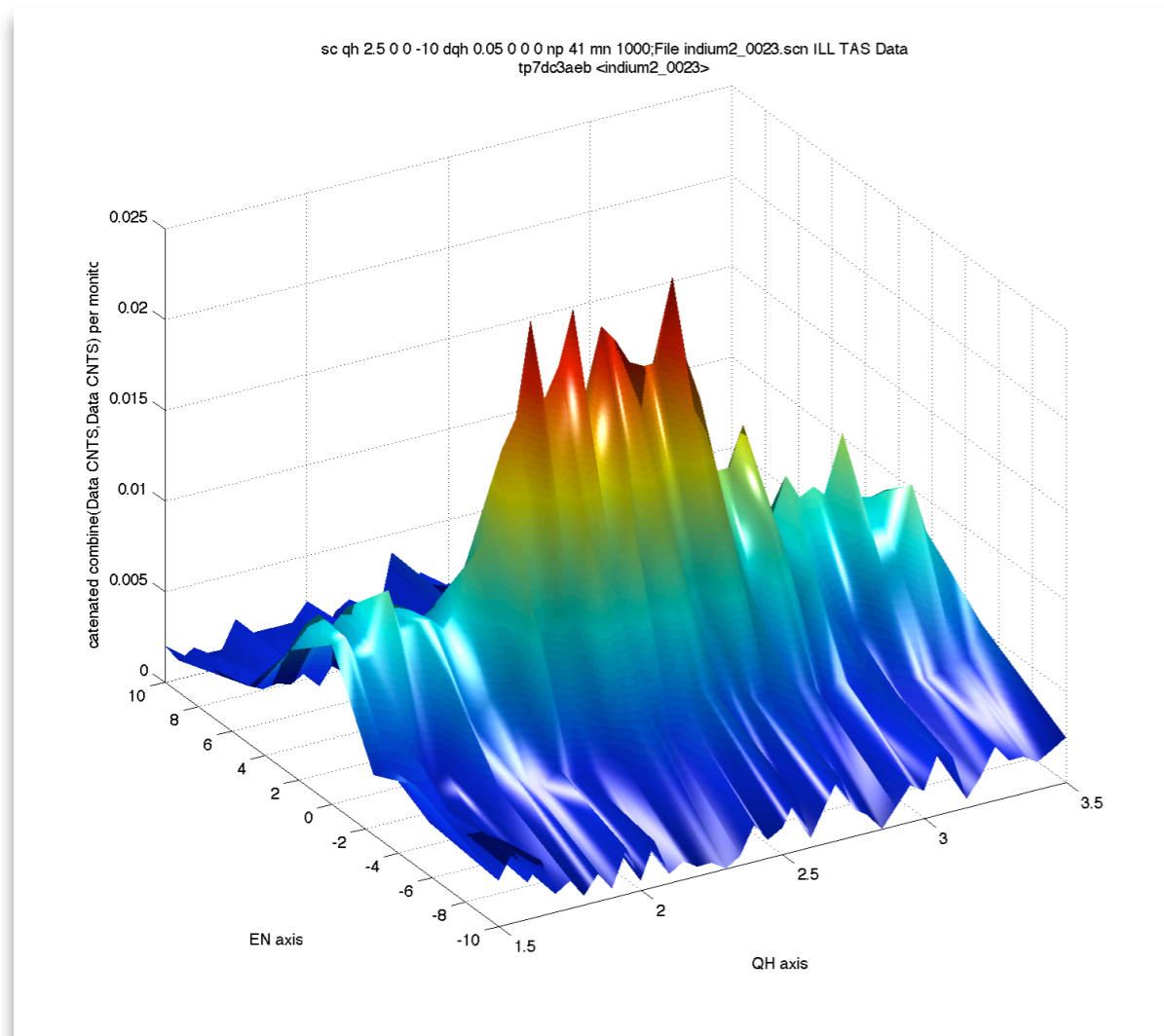
# Validation and testing

- Further experiments for ensuring correctness of McStas comps, like



# Validation and testing

• ... and



# Plus sustained support and collaboration

- Limited resources as there is no simulation JRA, still we will do
  - User workshops (Next is May 3rd before ICNS, Knoxville)
  - Training your students / people
  - Assist in development of specific components or features
  - Bring your problems to us or invite us to your facility!