

Sqw: a 'liquid' TOF

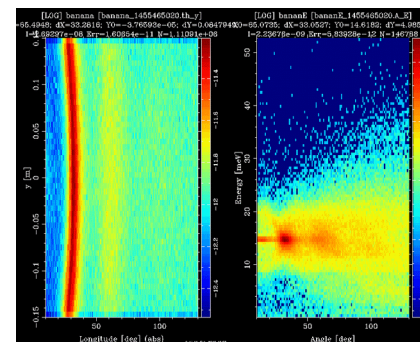
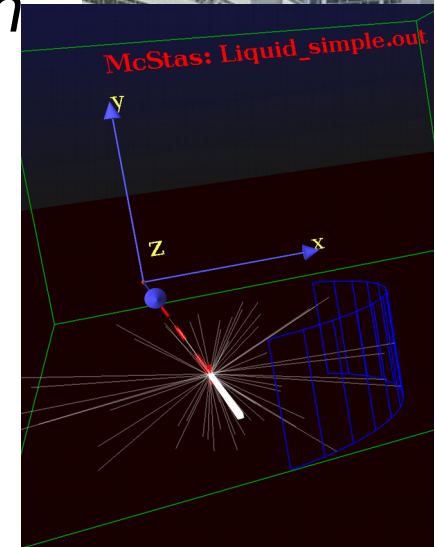
Aim: A simple spectrometer (and diffractometer)

- Create a new instrument from '*template (test)*'.
- Call it *Liquid_simple* and define input parameters (*lambda*=2.36, *string coh*="Rb_liq_coh.sqw", *string inc*="Rb_liq_inc.sqw")
- Insert a *Source_simple* $\phi 1\text{cm}$ sending $\lambda=\text{lambda}$ with $d\lambda/\lambda=1\%$. Focus onto a $1\times 1\text{cm}^2$ area.
- Insert an *Isotropic_Sqw* 3m away, using $\sigma_{coh}=\text{coh}$, $\sigma_{inc}=\text{inc}$ with $\phi 1\text{cm} \times 5\text{cm}$.



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- Add a **Monitor_nD** cylindrical detector $\phi 1\text{m} \times 30\text{cm}$, sensitive to **(θ, y)** for diffraction, centred on the sample, with 100 bins.
- Add the same, but sensitive to **(angle, energy)** with automatic energy limits.
- Save, run in Trace 3D to check geometry.
- Run in Simulation/PGPLOT mode with $1\text{e}8$ neutron events.
- Plot results !
- Comment on the diffraction pattern and the inelastic one.



Sqw: a 'liquid' TOF: contributions

- *Insert an instrument variable in the DECLARE block, as 'flag_scat'.*

```
DECLARE %{  
int flag_scat=0;  
%}
```

- *After the AT token of the 'sample', insert an EXTEND block that sets flag_scat to the number of SCATTERED events.*

```
EXTEND %{  
flag_scat=SCATTERED; // nb of scattered events  
%}
```

