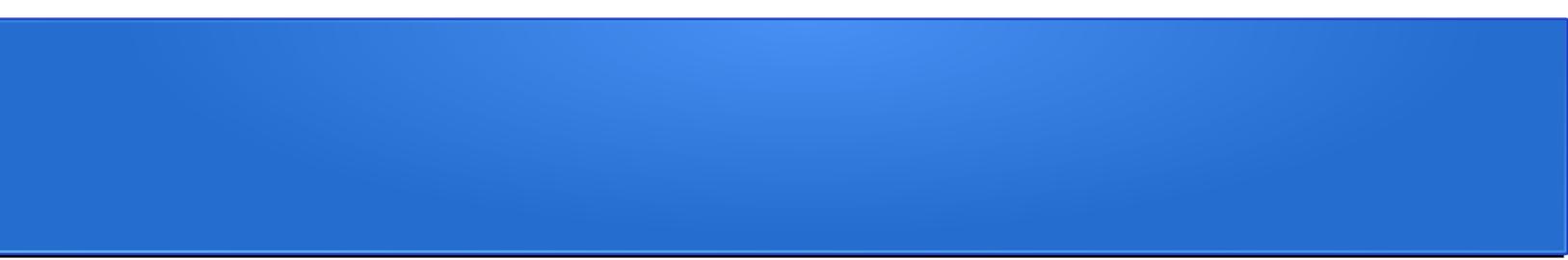# SINE2020

- **New User interfaces**

    Improductive to produce yet another GUI:

    - Difficult to maintain for anyone
    - Unclear responsibilities for maintenanace

    =>

- **New user interfaces is *connections* between software packages *explained* as examples. Documented on e.g. github.com.**

Example:

- General concept
- Some examples done and on the way:
    - McStas + SIMRES+ McStas
    - MCNP + MCStas
    - VITEss + McStas + VITEss
    - McStas/Scatterlogger
    - MCNP Supermirror patch
    - SIMRES reverse MC + McStas

Example:

- Example from D8.8 McStas/SiMRES:

```
 1  COMPONENT in = MCPL_input(repeat=1, filename="vin.mcpl")
 2  AT(0,0,0) RELATIVE Origin
 3
 4  COMPONENT single_crystal = Single_crystal(
 5      reflections="Al2O3_sapphire.lau",
 6      yheight=0.05, radius=0.01, mosaic=1, delta_d_d=1e-4,
 7      az=4.757, ay=0, az=0, bx=2.3785, by=0, bz=-3.364,
 8      cx=0, cy=12.9877, cz=0,
 9      p_transmit=0.1)
10  AT (0, 0, 0) RELATIVE PREVIOUS
11
12  COMPONENT out = MCPL_output(filename="vout.mcpl")
13  AT(0,0,0) RELATIVE PREVIOUS
```

Example

- McStas Scatterlogger

COMPONENT s1=Scatter_logger()
AT(0,0,1) **RELATIVE** src

COMPONENT guide_simple = Guide(
   w1 = 0.1, h1 = 0.1, w2 = 0.1, h2 = 0.1, l = LENGTH,
   R0 = 0.99, Qc = 0.0219, alpha = 6.07, m = 2, W = 0.003)
AT (0, 0, 1) **RELATIVE** src

COMPONENT s2=Scatter_logger_stop(logger=s1)
AT(0,0,0) **RELATIVE PREVIOUS**

COMPONENT a0=Arm()
AT(0,0,0) **ABSOLUTE**

COMPONENT iter1 = Scatter_log_iterator()
AT(0,0,0) **ABSOLUTE**

COMPONENT iter1 = Scatter_log_iterator()
AT(0,0,0) **ABSOLUTE**

COMPONENT mnd1=Monitor_nD (
 restore_neutron=1, options="previous no slit z", filename="mnd1.dat")
AT(0,0,0) **RELATIVE** guide_simple
ROTATED (0,0,0) **RELATIVE** guide_simple

COMPONENT mnd2=Monitor_nD (
 restore_neutron=1,options="previous no slit z,l limits=[0 10]",
 filename="mnd2.dat")
AT(0,0,0) **RELATIVE** guide_simple

COMPONENT iter2 = Scatter_log_iterator_stop(iterator=iter1)
AT(0,0,0) **RELATIVE** iter1

COMPONENT a1 = Arm()
AT (0,0,0) **ABSOLUTE**
JUMP a0 **WHEN**(MC_GETPAR(iter2,loop))

Example

- MCNP Supermirror patch

  Awaits approval for/info about release
  from MCNP-camp