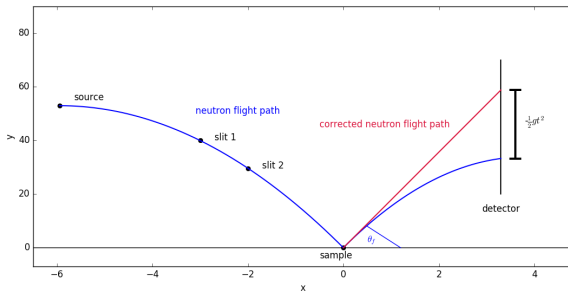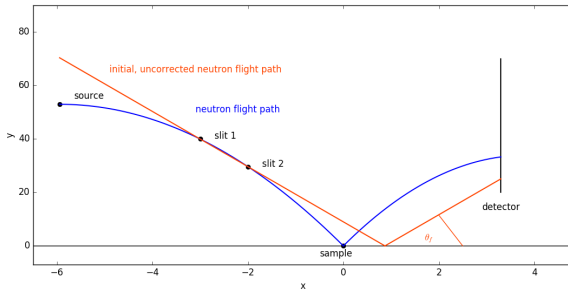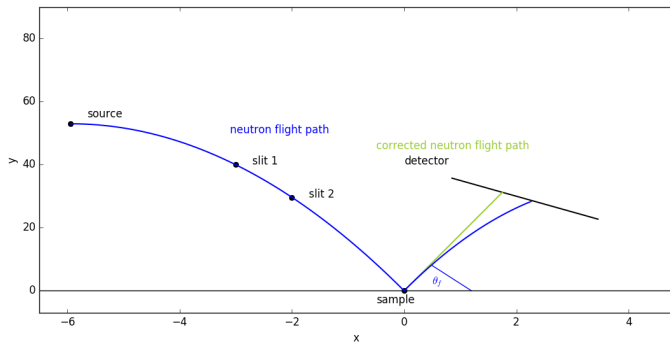# Gravity correction - (here vertical detector)
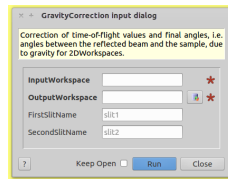
Gravity correction - arbitrary detector

Gravity correction - requirements

- InputWorkspace (must be a histogram)
- Two slits (order of input does not matter)
- Flat detector or point detector
- TOF x-axis
- Instrument definition

The OutputWorkspace may have:

- Modified TOF axis description
- Modified number of counts of spectra (thus modified final angles)

Other properties (instrument of the input workspace etc) will not be modified

Gravity correction - details

Virtual instrument definition (cloned from original instrument of the input workspace):

- ▶ Move instrument such that sample is at position $x = y = z = 0$ m

General acces of directions and coordinates:
Example: double zSlit2 = coordinate(slit2, beamDirectionName)

Gravity correction - testing

- WCH::reflectometryWorkspace (X along beam, left handedness)
- WCH::create2DWorkspaceWithReflectometryInstrument (X along beam, left handedness)
- CreateSampleWorkspace same ReferenceFrame as Figaro instrument definition
- Figaro workspaces ...

WCH WorkspaceCreationHelper

Gravity correction - testing

Existing reflectometry workspaces not yet considered, but may be interesting:

- INTER (slits, point-detectors, rectangular detector, ...)
- SURF (slits, point-detectors, rectangular detectors, ...)
- CRISP (slits, point-detector, rectangular detector)
- POLREF (slits, x along beam axis, point-detectors, linear detector, ...)
- OFFSPEC (point-detectors, linear detector, ... no slits)
- others?