

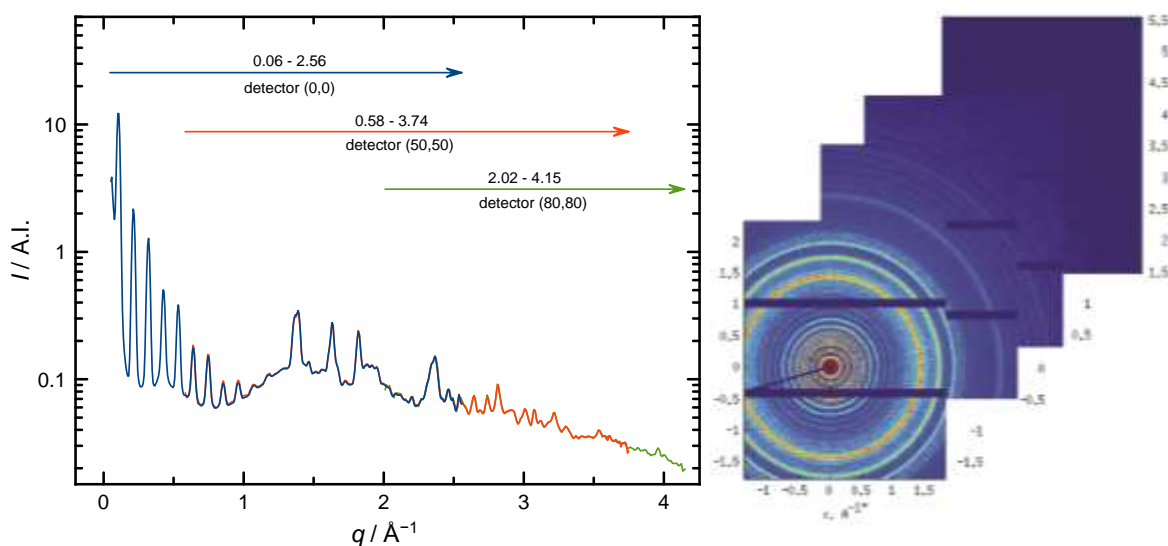


Off-axis measurements



Accessing higher q -ranges

The standard accessible q -range of the Ganesha is from $\sim 0.003 \text{ \AA}^{-1}$ to $\sim 2.5 \text{ \AA}^{-1}$ when measuring with the beam in the center of the image (beam stop configurations 2 mm and 4 mm centered). This can be increased up to $\sim 3 \text{ \AA}^{-1}$ using the off-center beam stop settings in the WAXS configuration. To reach higher values, up to $\sim 4.15 \text{ \AA}^{-1}$ or $\sim 60^\circ$ in 2θ , the detector can be moved perpendicular to the incoming beam, such that the direct beam does not hit the detector anymore.



Normally the direct beam on the detector is used to determine where the center of the scattering pattern is by using the 'conf_ugo' command or 'mv_beam2bstop'. However, with the beam not hitting the detector, these routines don't work, so instead the software will use a reference position and the shift of the detector to calculate the center of the image. Therefore it's important that the starting position of the detector is exactly correct and known by the software before you start any off axis experiments.

This is achieved by running the following commands:

```
conf_ugo 21
mv_beam2bstop
conf_save 21
```

Now you can start working in the off-axis mode using:

`off_axis_mode_on`

and going to the desired detector position by using 'mv dety' and 'mv detz'. Once the off-axis images are acquired use:

`off_axis_mode_off`

to exit the off-axis mode. Make sure that the instrument is reset to one of the basic configurations by running 'conf_ugo' followed by the desired configuration number and running a 'mv_beam2bstop' command in a blank position.

Summary of used commands

Off-axis commands	
<code>off_axis_mode_on</code>	Start off-axis mode
<code>off_axis_mode_off</code>	Quit off-axis mode
<code>conf_ugo conf#</code>	Go to the specified configuration (using configuration variables)
<code>conf_save conf#</code>	Save the present pinhole and detector configuration variables
<code>mv_beam2bstop</code>	Centers the beam on the beamstop
<code>mv motor-name number</code>	Move of a motor (in this case <i>dety</i> and <i>detz</i>)
<code>umv motor-name number</code>	Updated absolute move of a motor
<code>mvr motor-name number</code>	Relative move of a motor
<code>umvr motor-name number</code>	Updated relative move of a motor