

## 6 Proposed Dectris Eiger Application Definitions

The following has been derived from the current Dectris Eiger test data and presentations, changing some of the class names to ensure that they start with NX and to avoid conflicts with existing class names.

### 6.1 NXentry\_dectris\_eiger

NXentry\_dectris\_eiger (application definition, version 0.1) (overlays NXentry)

```
data_000001:NXDATA
data_000002:NXDATA
...
data_nnnnnn:NXDATA
instrument:NXinstrument
```

- ENTRY\_DECTRIS\_EIGER:NXentry\_dectris\_eiger →  
\_NXentry\_dectris\_eiger.NX\_tree\_path NEXUSTREEPATH  
\_NXentry\_dectris\_eiger.NX\_id ENTRY\_DECTRIS\_EIGERID  
\_NXentry\_dectris\_eiger.NX\_scan\_id SCANID  
\_NXentry\_dectris\_eiger.NX\_diffn\_id DIFFRNID  
\_NXentry\_dectris\_eiger.NX\_entry\_id ENTRYID

where components of NEXUSTREEPATH are composed of the relevant NeXus class, a double under score and, finally, the name of the group, ending with “/NXentry\_dectris\_eiger\_ENTRY\_DECTRIS\_EIGER” where ENTRY\_DECTRIS\_EIGER is the name of this group, typically “entry\_dectris\_eiger”. The SCANID, DIFFRNID and ENTRYID are optional keys for use when multiple scans, *etc.* are aggregated in the same CBF.

- data\_000001:NXDATA →  
\_NXentry\_dectris\_eiger.NXDATA\_id data\_000001
- data\_000002:NXDATA →  
\_NXentry\_dectris\_eiger.NXDATA\_id data\_000002
- .1:... →  
\_NXentry\_dectris\_eiger....\_id .1
- data\_nnnnnn:NXDATA →  
\_NXentry\_dectris\_eiger.NXDATA\_id data\_nnnnnn
- instrument:NXinstrument →  
\_NXentry\_dectris\_eiger.NXinstrument\_id instrument

### 6.2 NXinstrument\_dectris\_eiger

NXinstrument\_dectris\_eiger (application definition, version 0.1) (overlays NXinstrument)

```
dectector:NXdectector_dectris_eiger
```

- INSTRUMENT\_DECTRIS\_EIGER:NXinstrument\_dectris\_eiger →  
\_NXinstrument\_dectris\_eiger.NX\_tree\_path NEXUSTREEPATH  
\_NXinstrument\_dectris\_eiger.NX\_id INSTRUMENT\_DECTRIS\_EIGERID  
\_NXinstrument\_dectris\_eiger.NX\_scan\_id SCANID  
\_NXinstrument\_dectris\_eiger.NX\_diffn\_id DIFFRNID  
\_NXinstrument\_dectris\_eiger.NX\_entry\_id ENTRYID

where components of NEXUSTREEPATH are composed of the relevant NeXus class, a double under

score and, finally, the name of the group, ending with “/NXinstrument\_dectris\_eiger\_INSTRUMENT\_DECTRIS\_EIGER” where INSTRUMENT\_DECTRIS\_EIGER is the name of this group, typically “instrument\_dectris\_eiger”. The SCANID, DIFFRNID and ENTRYID are optional keys for use when multiple scans, *etc.* are aggregated in the same CBF.

- detector:NXdetector\_dectris\_eiger →  
\_NXinstrument\_dectris\_eiger.NXdetector\_dectris\_eiger\_id detector

### 6.3 NXdetector\_dectris\_eiger

NXdetector\_dectris\_eiger (application definition, version 0.1) (overlays NXDetector)

```

acquisition_mode:NX_CHAR
angular_calibration_applied:NX_BOOLEAN
beam_center_x:NX_FLOAT
    @units
beam_center_y:NX_FLOAT
    @units
bit_depth_readout:NX_UINT
count_time:NX_FLOAT[np]
    @units
countrate_correction_applied:NX_BOOLEAN
description:NX_CHAR
detector_number:NX_CHAR
detectorExtended:NXdetector_extended_dectris_eiger
detectorSpecific:NX_detector_specific_dectris_eiger
detector_number:NX_CHAR
detector_readout_time:NX_FLOAT[np]
    @units
efficiency_correction_applied:NX_BOOL
flatfield_correction_applied:NX_BOOL
frame_time:NX_FLOAT[np]
    @units
gain_setting:NX_CHAR
number_of_cycles:NX_UINT
pixel_mask_applied:NX_BOOL
sensor_material:NX_STRING
sensor_thickness:NX_FLOAT
    @units
threshold_energy:NX_FLOAT
    @units
virtual_pixel_correction_applied:NX_BOOL
x_pixel_size:NX_FLOAT
    @units
y_pixel_size:NX_FLOAT
    @units

```

- DETECTOR\_DECTRIS\_EIGER:NXdetector\_dectris\_eiger →  
\_NXdetector\_dectris\_eiger.NX\_tree\_path NEXUSTREEPATH  
\_NXdetector\_dectris\_eiger.NX\_id DETECTOR\_DECTRIS\_EIGERID  
\_NXdetector\_dectris\_eiger.NX\_scan\_id SCANID  
\_NXdetector\_dectris\_eiger.NX\_diffn\_id DIFFRNID

`_NXdetector_dectris_eiger.NX_entry_id ENTRYID`  
 where components of NEXUSTREEPATH are composed of the relevant NeXus class, a double under score and, finally, the name of the group, ending with “/NXdetector\_dectris\_eiger\_DETECTOR\_DECTRIS\_EIGER” where `DETECTOR_DECTRIS_EIGER` is the name of this group, typically “detector\_dectris\_eiger”. The SCANID, DIFFRNID and ENTRYID are optional keys for use when multiple scans, *etc.* are aggregated in the same CBF.

- `acquisition_mode:NX_CHAR=ACQUISITION_MODE →`  
`_NXdetector_dectris_eiger.acquisition_mode ACQUISITION_MODE`
- `angular_calibration_applied:NX_BOOLEAN=ANGULAR_CALIBRATION_APPLIED →`  
`_NXdetector_dectris_eiger.angular_calibration_applied ANGULAR_CALIBRATION_APPLIED`
- `beam_center_x:NX_FLOAT=BEAM_CENTER_X →`  
`_NXdetector_dectris_eiger.beam_center_x BEAM_CENTER_X`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.beam_center_x__units UNITS`
- `beam_center_y:NX_FLOAT=BEAM_CENTER_Y →`  
`_NXdetector_dectris_eiger.beam_center_y BEAM_CENTER_Y`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.beam_center_y__units UNITS`
- `bit_depth_readout:NX_UINT=BIT_DEPTH_READOUT →`  
`_NXdetector_dectris_eiger.bit_depth_readout BIT_DEPTH_READOUT`
- `count_time:NX_FLOAT[np]=COUNT_TIME →`  
`_NXdetector_dectris_eiger.count_time COUNT_TIME`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.count_time__units UNITS`
- `countrate_correction_applied:NX_BOOLEAN=COUNTRATE_CORRECTION_APPLIED →`  
`_NXdetector_dectris_eiger.countrate_correction_applied COUNTRATE_CORRECTION_APPLIED`
- `description:NX_CHAR=DESCRIPTION →`  
`_NXdetector_dectris_eiger.description DESCRIPTION`
- `detector_number:NX_CHAR=DETECTOR_NUMBER →`  
`_NXdetector_dectris_eiger.detector_number DETECTOR_NUMBER`
- `detectorExtended:NXdetector_extended_dectris_eiger →`  
`_NXdetector_dectris_eiger.NXdetector_extended_dectris_eiger_id detectorExtended`
- `detectorSpecific:NX_detector_specific_dectris_eiger=DETECTORSPECIFIC →`  
`_NXdetector_dectris_eiger.detectorSpecific DETECTORSPECIFIC`
- `detector_number:NX_CHAR=DETECTOR_NUMBER →`  
`_NXdetector_dectris_eiger.detector_number DETECTOR_NUMBER`
- `detector_readout_time:NX_FLOAT[np]=DETECTOR_READOUT_TIME →`  
`_NXdetector_dectris_eiger.detector_readout_time DETECTOR_READOUT_TIME`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.detector_readout_time__units UNITS`
- `efficiency_correction_applied:NX_BOOL=EFFICIENCY_CORRECTION_APPLIED →`  
`_NXdetector_dectris_eiger.efficiency_correction_applied EFFICIENCY_CORRECTION_APPLIED`
- `flatfield_correction_applied:NX_BOOL=FLATFIELD_CORRECTION_APPLIED →`  
`_NXdetector_dectris_eiger.flatfield_correction_applied FLATFIELD_CORRECTION_APPLIED`

- `frame_time:NX_FLOAT[np]=FRAME_TIME →`  
`_NXdetector_dectris_eiger.frame_time FRAME_TIME`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.frame_time__units UNITS`
- `gain_setting:NX_CHAR=GAIN_SETTING →`  
`_NXdetector_dectris_eiger.gain_setting GAIN_SETTING`
- `number_of_cycles:NX_UINT=NUMBER_OF_CYCLES →`  
`_NXdetector_dectris_eiger.number_of_cycles NUMBER_OF_CYCLES`
- `pixel_mask_applied:NX_BOOL=PIXEL_MASK_APPLIED →`  
`_NXdetector_dectris_eiger.pixel_mask_applied PIXEL_MASK_APPLIED`
- `sensor_material:NX_STRING=SENSOR_MATERIAL →`  
`_NXdetector_dectris_eiger.sensor_material SENSOR_MATERIAL`
- `sensor_thickness:NX_FLOAT=SENSOR_THICKNESS →`  
`_NXdetector_dectris_eiger.sensor_thickness SENSOR_THICKNESS`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.sensor_thickness__units UNITS`
- `threshold_energy:NX_FLOAT=THRESHOLD_ENERGY →`  
`_NXdetector_dectris_eiger.threshold_energy THRESHOLD_ENERGY`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.threshold_energy__units UNITS`
- `virtual_pixel_correction_applied:NX_BOOL=VIRTUAL_PIXEL_CORRECTION_APPLIED →`  
`_NXdetector_dectris_eiger.virtual_pixel_correction_applied VIRTUAL_PIXEL_CORRECTION_APPLIED`
- `x_pixel_size:NX_FLOAT=X_PIXEL_SIZE →`  
`_NXdetector_dectris_eiger.x_pixel_size X_PIXEL_SIZE`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.x_pixel_size__units UNITS`
- `y_pixel_size:NX_FLOAT=Y_PIXEL_SIZE →`  
`_NXdetector_dectris_eiger.y_pixel_size Y_PIXEL_SIZE`
- `@units=UNITS →`  
`_NXdetector_dectris_eiger.y_pixel_size__units UNITS`

## 6.4 NXdetector\_extended\_dectris\_eiger

NXdetector\_extended\_dectris\_eiger (application definition, version 0.1)

`detector_distance:NXFLOAT`

`@units`

`rotation_angle_step:NX_FLOAT[np]`

`@units`

`wavelength:NX_FLOAT`

`@units`

- `DETECTOR_EXTENDED_DECTRIS_EIGER:NXdetector_extended_dectris_eiger →`  
`_NXdetector_extended_dectris_eiger.NX_tree_path NEXUSTREEPATH`  
`_NXdetector_extended_dectris_eiger.NX_id DETECTOR_EXTENDED_DECTRIS_EIGERID`  
`_NXdetector_extended_dectris_eiger.NX_scan_id SCANID`  
`_NXdetector_extended_dectris_eiger.NX_diffn_id DIFFRNID`

`_NXdetector_extended_dectris_eiger.NX_entry_id` ENTRYID  
 where components of NEXUSTREEPATH are composed of the relevant NeXus class, a double under score and, finally, the name of the group, ending with “/NXdetector\_extended\_dectris\_eiger\_DETECTOR\_EXTENDED\_DECTRIS\_EIGER” where DETECTOR\_EXTENDED\_DECTRIS\_EIGER is the name of this group, typically “detector\_extended\_dectris\_eiger”. The SCANID, DIFFRNID and ENTRYID are optional keys for use when multiple scans, *etc.* are aggregated in the same CBF.

- `detector_distance:NXFLOAT` →  
`_NXdetector_extended_dectris_eiger.NXFLOAT_id` detector\_distance
- `@units=UNITS` →  
`_NXdetector_extended_dectris_eiger.NX_group_at_units` UNITS
- `rotation_angle_step:NX_FLOAT[np]=ROTATION_ANGLE_STEP` →  
`_NXdetector_extended_dectris_eiger.rotation_angle_step` ROTATION\_ANGLE\_STEP
- `@units=UNITS` →  
`_NXdetector_extended_dectris_eiger.rotation_angle_step_units` UNITS
- `wavelength:NX_FLOAT=WAVELENGTH` →  
`_NXdetector_extended_dectris_eiger.wavelength` WAVELENGTH
- `@units=UNITS` →  
`_NXdetector_extended_dectris_eiger.wavelength_units` UNITS

## 6.5 NX\_detector\_specific\_dectris\_eiger

`NX_detector_specific_dectris_eiger` (application definition, version 0.1)

```

countrate_correction_bunch_mode:NX_CHAR
countrate_correction_count_cutoff:NX_UINT
countrate_correction_lookup_table:NX_FLOAT[1000000]
data_collection_date:NX_CHAR
detectorModule_000:NXDetectorModule_dectris_eiger
detectorModule_001:NXDetectorModule_dectris_eiger
detectorModule_002:NXDetectorModule_dectris_eiger
detectorModule_003:NXDetectorModule_dectris_eiger
detectorModule_004:NXDetectorModule_dectris_eiger
detectorModule_005:NXDetectorModule_dectris_eiger
detectorModule_006:NXDetectorModule_dectris_eiger
detectorModule_007:NXDetectorModule_dectris_eiger
detectorModule_008:NXDetectorModule_dectris_eiger
detectorModule_009:NXDetectorModule_dectris_eiger
detectorModule_010:NXDetectorModule_dectris_eiger
detectorModule_011:NXDetectorModule_dectris_eiger
detectorModule_012:NXDetectorModule_dectris_eiger
detectorModule_013:NXDetectorModule_dectris_eiger
detectorModule_014:NXDetectorModule_dectris_eiger
detectorModule_015:NXDetectorModule_dectris_eiger
detectorModule_016:NXDetectorModule_dectris_eiger
detectorModule_017:NXDetectorModule_dectris_eiger
detectorModule_018:NXDetectorModule_dectris_eiger
detectorModule_019:NXDetectorModule_dectris_eiger
detectorModule_020:NXDetectorModule_dectris_eiger
detectorModule_021:NXDetectorModule_dectris_eiger

```

```

detectorModule_022:NXDetectorModule_dectris_eiger
detectorModule_023:NXDetectorModule_dectris_eiger
detectorModule_024:NXDetectorModule_dectris_eiger
detectorModule_025:NXDetectorModule_dectris_eiger
detectorModule_026:NXDetectorModule_dectris_eiger
detectorModule_027:NXDetectorModule_dectris_eiger
detectorModule_028:NXDetectorModule_dectris_eiger
detectorModule_029:NXDetectorModule_dectris_eiger
detectorModule_030:NXDetectorModule_dectris_eiger
detectorModule_031:NXDetectorModule_dectris_eiger
detectorModule_032:NXDetectorModule_dectris_eiger
detectorModule_033:NXDetectorModule_dectris_eiger
detectorModule_034:NXDetectorModule_dectris_eiger
detectorModule_035:NXDetectorModule_dectris_eiger
detectorModule_036:NXDetectorModule_dectris_eiger
detectorModule_037:NXDetectorModule_dectris_eiger
detectorModule_038:NXDetectorModule_dectris_eiger
detectorModule_039:NXDetectorModule_dectris_eiger
detectorModule_040:NXDetectorModule_dectris_eiger
detectorModule_041:NXDetectorModule_dectris_eiger
detectorModule_042:NXDetectorModule_dectris_eiger
detectorModule_043:NXDetectorModule_dectris_eiger
detectorModule_044:NXDetectorModule_dectris_eiger
detectorModule_045:NXDetectorModule_dectris_eiger
detectorModule_046:NXDetectorModule_dectris_eiger
detectorModule_047:NXDetectorModule_dectris_eiger
detectorModule_048:NXDetectorModule_dectris_eiger
detectorModule_049:NXDetectorModule_dectris_eiger
detectorModule_050:NXDetectorModule_dectris_eiger
detectorModule_051:NXDetectorModule_dectris_eiger
detectorModule_052:NXDetectorModule_dectris_eiger
detectorModule_053:NXDetectorModule_dectris_eiger
detectorModule_054:NXDetectorModule_dectris_eiger
detectorModule_055:NXDetectorModule_dectris_eiger
detectorModule_056:NXDetectorModule_dectris_eiger
detectorModule_057:NXDetectorModule_dectris_eiger
detectorModule_058:NXDetectorModule_dectris_eiger
detectorModule_059:NXDetectorModule_dectris_eiger
detector_origin:NX_FLOAT64
    @depends_on
    @transformation
    @units
    @vector
detector_origin_rotated:NX_FLOAT64
    @depends_on
    @transformation
    @units
    @vector
flat field:NX_FLOAT[number of x pixels,number of y pixels]
imgType:NX_UINT

```

```

mode_register:NX_UINT
nimages:NX_UINT
number_of_excluded_pixels:NX_UINT
photon_energy:NX_FLOAT
pixel_mask:NX_FLOAT[number of x pixels,number of y pixels]
readout_mode:NX_CHAR
seriesId:NX_ULONG
software_version:NX_CHAR
sub_image_exposure_time:NX_FLOAT
summation_mode:NX_CHAR
summation_nimages:NX_UINT
trigger_mode:NX_CHAR
x_pixels_in_detector:NX_UINT
y_pixels_in_detector:NX_UINT

```

- `_DETECTOR_SPECIFIC_DECTRIS_EIGER:NX_detector_specific_dectris_eiger` →
  - `_NX_detector_specific_dectris_eiger.NX_tree_path` NEXUSTREEPATH
  - `_NX_detector_specific_dectris_eiger.NX_id` `_DETECTOR_SPECIFIC_DECTRIS_EIGERID`
  - `_NX_detector_specific_dectris_eiger.NX_scan_id` SCANID
  - `_NX_detector_specific_dectris_eiger.NX_diffn_id` DIFFRNID
  - `_NX_detector_specific_dectris_eiger.NX_entry_id` ENTRYID
 where components of NEXUSTREEPATH are composed of the relevant NeXus class, a double under score and, finally, the name of the group, ending with “/NX\_detector\_specific\_dectris\_eiger-DETECTOR\_SPECIFIC\_DECTRIS\_EIGER” where `_DETECTOR_SPECIFIC_DECTRIS_EIGER` is the name of this group, typically “\_detector\_specific\_dectris\_eiger”. The SCANID, DIFFRNID and ENTRYID are optional keys for use when multiple scans, *etc.* are aggregated in the same CBF.
- `countrate_correction_bunch_mode:NX_CHAR=COUNTRATE_CORRECTION_BUNCH_MODE` →
  - `_NX_detector_specific_dectris_eiger.countrate_correction_bunch_mode`
  - COUNTRATE\_CORRECTION\_BUNCH\_MODE
- `countrate_correction_count_cutoff:NX_UINT=COUNTRATE_CORRECTION_COUNT_CUTOFF` →
  - `_NX_detector_specific_dectris_eiger.countrate_correction_count_cutoff`
  - COUNTRATE\_CORRECTION\_COUNT\_CUTOFF
- `countrate_correction_lookup_table:NX_FLOAT[1000000]=COUNTRATE_CORRECTION_LOOKUP_TABLE` →
  - `_NX_detector_specific_dectris_eiger.countrate_correction_lookup_table`
  - COUNTRATE\_CORRECTION\_LOOKUP\_TABLE
- `data_collection_date:NX_CHAR=DATA_COLLECTION_DATE` →
  - `_NX_detector_specific_dectris_eiger.data_collection_date` DATA\_COLLECTION\_DATE
- `detectorModule_000:NXDetectorModule_dectris_eiger` →
  - `_NX_detector_specific_dectris_eiger.NXDetectorModule_dectris_eiger_id` detectorModule\_000
- `detectorModule_001:NXDetectorModule_dectris_eiger` →
  - `_NX_detector_specific_dectris_eiger.NXDetectorModule_dectris_eiger_id` detectorModule\_001
- `detectorModule_002:NXDetectorModule_dectris_eiger` →
  - `_NX_detector_specific_dectris_eiger.NXDetectorModule_dectris_eiger_id` detectorModule\_002
- `detectorModule_003:NXDetectorModule_dectris_eiger` →
  - `_NX_detector_specific_dectris_eiger.NXDetectorModule_dectris_eiger_id` detectorModule\_003







- detectorModule\_048:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_048
- detectorModule\_049:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_049
- detectorModule\_050:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_050
- detectorModule\_051:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_051
- detectorModule\_052:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_052
- detectorModule\_053:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_053
- detectorModule\_054:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_054
- detectorModule\_055:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_055
- detectorModule\_056:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_056
- detectorModule\_057:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_057
- detectorModule\_058:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_058
- detectorModule\_059:NXDetectorModule\_dectris\_eiger →  
\_NX\_detector\_specific\_dectris\_eiger.NXDetectorModule\_dectris\_eiger\_id detectorModule\_059
- detector\_origin:NX\_FLOAT64=DETECTOR\_ORIGIN →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin DETECTOR\_ORIGIN
- @depends\_on=DEPENDS\_ON →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_\_depends\_on DEPENDS\_ON
- @transformation=TRANSFORMATION →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_\_transformation TRANSFORMATION
- @units=UNITS →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_\_units UNITS
- @vector=VECTOR →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_\_vector VECTOR
- detector\_origin\_rotated:NX\_FLOAT64=DETECTOR\_ORIGIN\_ROTATED →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_rotated DETECTOR\_ORIGIN\_ROTATED
- @depends\_on=DEPENDS\_ON →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_rotated\_\_depends\_on DEPENDS\_ON
- @transformation=TRANSFORMATION →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_rotated\_\_transformation TRANSFORMATION
- @units=UNITS →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_rotated\_\_units UNITS
- @vector=VECTOR →  
\_NX\_detector\_specific\_dectris\_eiger.detector\_origin\_rotated\_\_vector VECTOR

- flatfield:NX\_FLOAT[numberofxpixels,numberofypixels]=FLATFIELD →  
\_NX\_detector\_specific\_dectris\_eiger.flatfield FLATFIELD
- imgType:NX\_UINT=IMGTYPE →  
\_NX\_detector\_specific\_dectris\_eiger.imgType IMGTYPE
- mode\_register:NX\_UINT=MODE\_REGISTER →  
\_NX\_detector\_specific\_dectris\_eiger.mode\_register MODE\_REGISTER
- nimages:NX\_UINT=NIMAGES →  
\_NX\_detector\_specific\_dectris\_eiger.nimages NIMAGES
- number\_of\_excluded\_pixels:NX\_UINT=NUMBER\_OF\_EXCLUDED\_PIXELS →  
\_NX\_detector\_specific\_dectris\_eiger.number\_of\_excluded\_pixels NUMBER\_OF\_EXCLUDED\_PIXELS
- photon\_energy:NX\_FLOAT=PHOTON\_ENERGY →  
\_NX\_detector\_specific\_dectris\_eiger.photon\_energy PHOTON\_ENERGY
- pixel\_mask:NX\_FLOAT[numberofxpixels,numberofypixels]=PIXEL\_MASK →  
\_NX\_detector\_specific\_dectris\_eiger.pixel\_mask PIXEL\_MASK
- readout\_mode:NX\_CHAR=READOUT\_MODE →  
\_NX\_detector\_specific\_dectris\_eiger.readout\_mode READOUT\_MODE
- serialId:NX\_ULONG=SERIEDID →  
\_NX\_detector\_specific\_dectris\_eiger.serialId SERIEDID
- software\_version:NX\_CHAR=SOFTWARE\_VERSION →  
\_NX\_detector\_specific\_dectris\_eiger.software\_version SOFTWARE\_VERSION
- sub\_image\_exposure\_time:NX\_FLOAT=SUB\_IMAGE\_EXPOSURE\_TIME →  
\_NX\_detector\_specific\_dectris\_eiger.sub\_image\_exposure\_time SUB\_IMAGE\_EXPOSURE\_TIME
- summation\_mode:NX\_CHAR=SUMMATION\_MODE →  
\_NX\_detector\_specific\_dectris\_eiger.summation\_mode SUMMATION\_MODE
- summation\_nimages:NX\_UINT=SUMMATION\_NIMAGES →  
\_NX\_detector\_specific\_dectris\_eiger.summation\_nimages SUMMATION\_NIMAGES
- trigger\_mode:NX\_CHAR=TRIGGER\_MODE →  
\_NX\_detector\_specific\_dectris\_eiger.trigger\_mode TRIGGER\_MODE
- x\_pixels\_in\_detector:NX\_UINT=X\_PIXELS\_IN\_DETECTOR →  
\_NX\_detector\_specific\_dectris\_eiger.x\_pixels\_in\_detector X\_PIXELS\_IN\_DETECTOR
- y\_pixels\_in\_detector:NX\_UINT=Y\_PIXELS\_IN\_DETECTOR →  
\_NX\_detector\_specific\_dectris\_eiger.y\_pixels\_in\_detector Y\_PIXELS\_IN\_DETECTOR

## 6.6 NXDetectorModule\_dectris\_eiger

NXDetectorModule\_dectris\_eiger (application definition, version 0.1)

```

dac_names:NX_CHAR[6]
dac_values:NX_UINT[7]
data_origin:NX_UINT[2]
data_size:NX_UINT[2]
detectorChip_00:NXDetectorChip_dectris_eiger
detectorChip_01:NXDetectorChip_dectris_eiger
detectorChip_02:NXDetectorChip_dectris_eiger
detectorChip_03:NXDetectorChip_dectris_eiger
detectorChip_04:NXDetectorChip_dectris_eiger

```

```

detectorChip_05:NXDetectorChip_dectris_eiger
detectorChip_06:NXDetectorChip_dectris_eiger
detectorChip_07:NXDetectorChip_dectris_eiger
detectorChip_08:NXDetectorChip_dectris_eiger
detectorChip_09:NXDetectorChip_dectris_eiger
detectorChip_10:NXDetectorChip_dectris_eiger
detectorChip_11:NXDetectorChip_dectris_eiger
detectorChip_12:NXDetectorChip_dectris_eiger
detectorChip_13:NXDetectorChip_dectris_eiger
detectorChip_14:NXDetectorChip_dectris_eiger
detectorChip_15:NXDetectorChip_dectris_eiger
fast_pixel_direction:NX_FLOAT64
    @depends_on
    @transformation
    @units
    @vector
firmware_version:NX_CHAR
module_offset:NX_FLOAT64
    @depends_on
    @transformation
    @units
    @vector
nbits:NX_UINT
nchips:NX_UINT
readout_frequency:NX_FLOAT
    @units
region_of_interest:NX_UINT[4]
slow_pixel_direction:NX_FLOAT64
    @depends_on
    @transformation
    @units
    @vector
x_pixels_in_module:NX_UINT
y_pixels_in_module:NX_UINT

```

- DETECTORMODULE\_DECTRIS\_EIGER:NXDetectorModule\_dectris\_eiger →
  - \_NXDetectorModule\_dectris\_eiger.NX\_tree\_path NEXUSTREEPATH
  - \_NXDetectorModule\_dectris\_eiger.NX\_id DETECTORMODULE\_DECTRIS\_EIGERID
  - \_NXDetectorModule\_dectris\_eiger.NX\_scan\_id SCANID
  - \_NXDetectorModule\_dectris\_eiger.NX\_diffn\_id DIFFRNID
  - \_NXDetectorModule\_dectris\_eiger.NX\_entry\_id ENTRYID

where components of NEXUSTREEPATH are composed of the relevant NeXus class, a double under score and, finally, the name of the group, ending with “/NXDetectorModule\_dectris\_eiger-DETECTORMODULE\_DECTRIS\_EIGER” where DETECTORMODULE\_DECTRIS\_EIGER is the name of this group, typically “DetectorModule\_dectris\_eiger”. The SCANID, DIFFRNID and ENTRYID are optional keys for use when multiple scans, *etc.* are aggregated in the same CBF.

- dac\_names:NX\_CHAR[6]=DAC\_NAMES →
  - \_NXDetectorModule\_dectris\_eiger.dac\_names DAC\_NAMES
- dac\_values:NX\_UINT[7]=DAC\_VALUES →
  - \_NXDetectorModule\_dectris\_eiger.dac\_values DAC\_VALUES

- `data_origin:NX_UINT[2]=DATA_ORIGIN →`  
`_NXDetectorModule_dectris_eiger.data_origin DATA_ORIGIN`
- `data_size:NX_UINT[2]=DATA_SIZE →`  
`_NXDetectorModule_dectris_eiger.data_size DATA_SIZE`
- `detectorChip_00:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_00`
- `detectorChip_01:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_01`
- `detectorChip_02:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_02`
- `detectorChip_03:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_03`
- `detectorChip_04:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_04`
- `detectorChip_05:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_05`
- `detectorChip_06:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_06`
- `detectorChip_07:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_07`
- `detectorChip_08:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_08`
- `detectorChip_09:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_09`
- `detectorChip_10:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_10`
- `detectorChip_11:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_11`
- `detectorChip_12:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_12`
- `detectorChip_13:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_13`
- `detectorChip_14:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_14`
- `detectorChip_15:NXDetectorChip_dectris_eiger →`  
`_NXDetectorModule_dectris_eiger.NXDetectorChip_dectris_eiger_id detectorChip_15`
- `fast_pixel_direction:NX_FLOAT64=FAST_PIXEL_DIRECTION →`  
`_NXDetectorModule_dectris_eiger.fast_pixel_direction FAST_PIXEL_DIRECTION`
- `@depends_on=DEPENDS_ON →`  
`_NXDetectorModule_dectris_eiger.fast_pixel_direction__depends_on DEPENDS_ON`
- `@transformation=TRANSFORMATION →`  
`_NXDetectorModule_dectris_eiger.fast_pixel_direction__transformation TRANSFORMATION`
- `@units=UNITS →`  
`_NXDetectorModule_dectris_eiger.fast_pixel_direction__units UNITS`

- @vector=VECTOR →  
\_NXDetectorModule\_dectris\_eiger.fast\_pixel\_direction\_\_vector VECTOR
- firmware\_version:NX\_CHAR=FIRMWARE\_VERSION →  
\_NXDetectorModule\_dectris\_eiger.firmware\_version FIRMWARE\_VERSION
- module\_offset:NX\_FLOAT64=MODULE\_OFFSET →  
\_NXDetectorModule\_dectris\_eiger.module\_offset MODULE\_OFFSET
- @depends\_on=DEPENDS\_ON →  
\_NXDetectorModule\_dectris\_eiger.module\_offset\_\_depends\_on DEPENDS\_ON
- @transformation=TRANSFORMATION →  
\_NXDetectorModule\_dectris\_eiger.module\_offset\_\_transformation TRANSFORMATION
- @units=UNITS →  
\_NXDetectorModule\_dectris\_eiger.module\_offset\_\_units UNITS
- @vector=VECTOR →  
\_NXDetectorModule\_dectris\_eiger.module\_offset\_\_vector VECTOR
- nbits:NX\_UINT=NBITS →  
\_NXDetectorModule\_dectris\_eiger.nbits NBITS
- nchips:NX\_UINT=NCHIPS →  
\_NXDetectorModule\_dectris\_eiger.nchips NCHIPS
- readout\_frequency:NX\_FLOAT=READOUT\_FREQUENCY →  
\_NXDetectorModule\_dectris\_eiger.readout\_frequency READOUT\_FREQUENCY
- @units=UNITS →  
\_NXDetectorModule\_dectris\_eiger.readout\_frequency\_\_units UNITS
- region\_of\_interest:NX\_UINT[4]=REGION\_OF\_INTEREST →  
\_NXDetectorModule\_dectris\_eiger.region\_of\_interest REGION\_OF\_INTEREST
- slow\_pixel\_direction:NX\_FLOAT64=SLOW\_PIXEL\_DIRECTION →  
\_NXDetectorModule\_dectris\_eiger.slow\_pixel\_direction SLOW\_PIXEL\_DIRECTION
- @depends\_on=DEPENDS\_ON →  
\_NXDetectorModule\_dectris\_eiger.slow\_pixel\_direction\_\_depends\_on DEPENDS\_ON
- @transformation=TRANSFORMATION →  
\_NXDetectorModule\_dectris\_eiger.slow\_pixel\_direction\_\_transformation TRANSFORMATION
- @units=UNITS →  
\_NXDetectorModule\_dectris\_eiger.slow\_pixel\_direction\_\_units UNITS
- @vector=VECTOR →  
\_NXDetectorModule\_dectris\_eiger.slow\_pixel\_direction\_\_vector VECTOR
- x\_pixels\_in\_module:NX\_UINT=X\_PIXELS\_IN\_MODULE →  
\_NXDetectorModule\_dectris\_eiger.x\_pixels\_in\_module X\_PIXELS\_IN\_MODULE
- y\_pixels\_in\_module:NX\_UINT=Y\_PIXELS\_IN\_MODULE →  
\_NXDetectorModule\_dectris\_eiger.y\_pixels\_in\_module Y\_PIXELS\_IN\_MODULE

## 6.7 NXDetectorChip\_dectris\_eiger

```

NXDetectorChip_dectris_eiger
  chip_type:NX_CHAR
  x_pixels_in_chip:NX_UINT

```

x\_position:NX\_UINT  
y\_pixels\_in\_chip:NX\_UINT  
y\_position:NX\_UINT

- DETECTORCHIP\_DECTRIS\_EIGER:NXDetectorChip\_dectris\_eiger →  
\_NXDetectorChip\_dectris\_eiger.NX\_tree\_path NEXUSTREEPATH  
\_NXDetectorChip\_dectris\_eiger.NX\_id DETECTORCHIP\_DECTRIS\_EIGERID  
\_NXDetectorChip\_dectris\_eiger.NX\_scan\_id SCANID  
\_NXDetectorChip\_dectris\_eiger.NX\_diffn\_id DIFFRNID  
\_NXDetectorChip\_dectris\_eiger.NX\_entry\_id ENTRYID

where components of NEXUSTREEPATH are composed of the relevant NeXus class, a double under score and, finally, the name of the group, ending with “/NXDetectorChip\_dectris\_eiger-DETECTORCHIP\_DECTRIS\_EIGER” where DETECTORCHIP\_DECTRIS\_EIGER is the name of this group, typically “DetectorChip\_dectris\_eiger”. The SCANID, DIFFRNID and ENTRYID are optional keys for use when multiple scans, *etc.* are aggregated in the same CBF.

- chip\_type:NX\_CHAR=CHIP\_TYPE →  
\_NXDetectorChip\_dectris\_eiger.chip\_type CHIP\_TYPE
- x\_pixels\_in\_chip:NX\_UINT=X\_PIXELS\_IN\_CHIP →  
\_NXDetectorChip\_dectris\_eiger.x\_pixels\_in\_chip X\_PIXELS\_IN\_CHIP
- x\_position:NX\_UINT=X\_POSITION →  
\_NXDetectorChip\_dectris\_eiger.x\_position X\_POSITION
- y\_pixels\_in\_chip:NX\_UINT=Y\_PIXELS\_IN\_CHIP →  
\_NXDetectorChip\_dectris\_eiger.y\_pixels\_in\_chip Y\_PIXELS\_IN\_CHIP
- y\_position:NX\_UINT=Y\_POSITION →  
\_NXDetectorChip\_dectris\_eiger.y\_position Y\_POSITION