This is group, dataset and attribute information extracted from <https://github.com/nexusformat/exampledata/blob/master/DLS/i03_i04_NXmx/hdf5/Therm_6_2.nxs>, outlined with the hdf5 graph hierarchy.

Note that various datasets house only a single variable, there are groups containinga a single dataset with a single variable. Its not clear when or why the variable values are in a dataset, group attribute, or dataset attribute….

NX class is apparently NXmx, see entry/definition (below), and https://github.com/nexusformat/definitions/blob/main/applications/NXmx.nxdl.xml. This is “functional application definition for macromolecular crystallography”

# entry/ (Group)

**attributes**:

NX\_class: NXentry

## entry/data/ (Group)

attributes:

NX\_class: NXdata

axes: omega

signal: data

### entry/data/data (Dataset);

shape: (488, 4362, 4148), dims: 3; dtype: int64

### entry/data/omega (Dataset);

shape: (488,), dims: 1; dtype: float64

attributes:

depends\_on: .

transformation\_type: rotation

units: deg

vector: [-1. 0. 0.]

## entry/definition (Dataset);

shape: (), dims: 0; dtype: |S4

Data value: NXmx

## entry/end\_time (Dataset);

shape: (), dims: 0; dtype: |S19

Data value: 2019-02-14T14:26:24

## entry/instrument/ (Group)

attributes:

NX\_class: NXinstrument

short\_name: I04

### entry/instrument/attenuator/ (**Group**)

attributes:

NX\_class: NXattenuator

#### entry/instrument/attenuator/attenuator\_transmission (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 0.011186999999999947

### entry/instrument/beam/ (**Group**)

attributes:

NX\_class: NXbeam

#### entry/instrument/beam/incident\_wavelength (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 0.9802735610373182

attributes:

units: angstrom

#### entry/instrument/beam/total\_flux (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 2098167115.9861972

attributes:

units: Hz

### entry/instrument/detector/ (**Group**)

attributes:

NX\_class: NXdetector

#### entry/instrument/detector/beam\_center\_x (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 2216.055470799965

attributes:

units: pixels

#### entry/instrument/detector/beam\_center\_y (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 2300.410466894286

attributes:

units: pixels

#### entry/instrument/detector/count\_time (**Dataset**); shape: (), dims: 0; dtype: float64

Data value: 0.008

#### entry/instrument/detector/depends\_on (**Dataset**);

shape: (), dims: 0; dtype: |S1024

Data value: /entry/instrument/transformations/det\_z

#### entry/instrument/detector/description (**Dataset**);

shape: (), dims: 0; dtype: |S1024

Data value: Eiger 16M

##### entry/instrument/detector/detectorSpecific/ (**Group**)

###### entry/instrument/detector/detectorSpecific/nimages (***Dataset***);

shape: (), dims: 0; dtype: int32

Data value: 488

###### entry/instrument/detector/detectorSpecific/x\_pixels\_in\_detector (***Dataset***);

shape: (), dims: 0; dtype: int32

Data value: 4148

###### entry/instrument/detector/detectorSpecific/y\_pixels\_in\_detector (***Dataset***);

shape: (), dims: 0; dtype: int32

Data value: 4362

#### entry/instrument/detector/detector\_distance (**Dataset**);

shape: (1,), dims: 1; dtype: float64

Data value: 0.2139589697850523

attributes:

units: m

#### entry/instrument/detector/module/ (**Group**)

attributes:

NX\_class: NXdetector\_module

##### entry/instrument/detector/module/data\_origin (***Dataset***);

shape: (2,), dims: 1; dtype: int32

##### entry/instrument/detector/module/data\_size (***Dataset***);

shape: (2,), dims: 1; dtype: int32

##### entry/instrument/detector/module/data\_stride (***Dataset***);

shape: (2,), dims: 1; dtype: int32

##### entry/instrument/detector/module/fast\_pixel\_direction (***Dataset***);

shape: (), dims: 0; dtype: float64

Data value: 7.5e-05

attributes:

depends\_on: /entry/instrument/detector/module/module\_offset

offset: [0. 0. 0.]

transformation\_type: translation

units: m

vector: [-1. 0. 0.]

##### entry/instrument/detector/module/module\_offset (***Dataset***);

shape: (), dims: 0; dtype: float64

Data value: 0.0

attributes:

depends\_on: /entry/instrument/transformations/det\_z

offset: [ 0.16620416 0.17253079 -0. ]

transformation\_type: translation

units: m

vector: [1. 0. 0.]

##### entry/instrument/detector/module/slow\_pixel\_direction (***Dataset***);

shape: (), dims: 0; dtype: float64

Data value: 7.5e-05

attributes:

depends\_on: /entry/instrument/detector/module/module\_offset

offset: [0. 0. 0.]

transformation\_type: translation

units: m

vector: [ 0. -1. 0.]

#### entry/instrument/detector/saturation\_value (**Dataset**);

shape: (), dims: 0; dtype: int64

Data value: 65535

#### entry/instrument/detector/sensor\_material (**Dataset**);

shape: (), dims: 0; dtype: |S1024

Data value: Silicon

#### entry/instrument/detector/sensor\_thickness (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 0.00045

attributes:

units: m

#### entry/instrument/detector/type (**Dataset**);

shape: (), dims: 0; dtype: |S1024

Data value: Pixel

#### entry/instrument/detector/x\_pixel\_size (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 7.5e-05

attributes:

units: m

#### entry/instrument/detector/y\_pixel\_size (**Dataset**);

shape: (), dims: 0; dtype: float64

Data value: 7.5e-05

attributes:

units: m

### entry/instrument/detector\_z/ (**Group**)

attributes:

NX\_class: NXpositioner

#### entry/instrument/detector\_z/det\_z (**Dataset**);

shape: (1,), dims: 1; dtype: float64

Data value: 213.9589697850523

attributes:

depends\_on: .

transformation\_type: translation

units: mm

vector: [0. 0. 1.]

### entry/instrument/source/ (**Group**)

attributes:

NX\_class: NXsource

#### entry/instrument/source/name (**Dataset**);

shape: (), dims: 0; dtype: |S20

Data value: Diamond Light Source

attributes:

short\_name: DLS

#### entry/instrument/source/type (**Dataset**);

shape: (), dims: 0; dtype: |S24

Data value: Synchrotron X-ray Source

### entry/instrument/transformations/ (**Group**)

attributes:

NX\_class: NXtransformations

## entry/sample/ (Group)

attributes:

NX\_class: NXsample

### entry/sample/depends\_on (***Dataset***);

shape: (), dims: 0; dtype: |S1024

Data value: /entry/sample/transformations/phi

### entry/sample/sample\_chi/ (**Group**)

attributes:

NX\_class: NXpositioner

#### entry/sample/sample\_chi/chi (**Dataset**);

shape: (1,), dims: 1; dtype: float64

Data value: 0.0

attributes:

depends\_on: /entry/sample/transformations/sam\_x

transformation\_type: rotation

units: deg

vector: [0.0046 0.0372 0.9993]

### entry/sample/sample\_omega/ (**Group**)

attributes:

NX\_class: NXpositioner

#### entry/sample/sample\_phi/ (**Group**)

attributes:

NX\_class: NXpositioner

##### entry/sample/sample\_phi/phi (***Dataset***);

shape: (1,), dims: 1; dtype: float64

Data value: 0.0

attributes:

depends\_on: /entry/sample/transformations/chi

transformation\_type: rotation

units: deg

vector: [-1. -0.0037 -0.002 ]

### entry/sample/sample\_x/ (**Group**)

attributes:

NX\_class: NXpositioner

#### entry/sample/sample\_x/sam\_x (**Dataset**);

shape: (1,), dims: 1; dtype: float64

Data value: 0.0

attributes:

depends\_on: /entry/sample/transformations/sam\_y

transformation\_type: translation

units: mm

vector: [1. 0. 0.]

### entry/sample/sample\_y/ (**Group**)

attributes:

NX\_class: NXpositioner

#### entry/sample/sample\_y/sam\_y (**Dataset**);

shape: (1,), dims: 1; dtype: float64

Data value: 0.0

attributes:

depends\_on: /entry/sample/transformations/sam\_z

transformation\_type: translation

units: mm

vector: [0. 1. 0.]

### entry/sample/sample\_z/ (**Group**)

attributes:

NX\_class: NXpositioner

#### entry/sample/sample\_z/sam\_z (**Dataset**);

shape: (1,), dims: 1; dtype: float64

Data value: 0.0

attributes:

depends\_on: /entry/sample/transformations/omega

transformation\_type: translation

units: mm

vector: [0. 0. 1.]

### entry/sample/transformations/ (**Group**)

attributes:

NX\_class: NXtransformations

#### entry/sample/transformations/omega\_end (**Dataset**);

shape: (488,), dims: 1; dtype: float64

#### entry/sample/transformations/omega\_increment\_set (**Dataset**);

shape: (488,), dims: 1; dtype: float64

## entry/start\_time (*Dataset*);

shape: (), dims: 0; dtype: |S19

Data value: 2019-02-14T14:25:57