3.3.2.27. NXxas\_new

# Status:

application definition, extends [**NXobject**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXobject.html#nxobject). Download from <https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html> SMR 2025-08-15

# Description:

This is an application definition for X-ray absorption spectroscopy.

# Symbols:

The symbol(s) listed here will be used below to coordinate datasets with the same shape.

**nEnergy**: Number of energy data points

**nTransitions**: Number of electronic transitions

# Groups cited:

**[NXcollection](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcollection.html" \l "nxcollection)**, [**NXcrystal**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcrystal.html#nxcrystal), [**NXdata**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdata.html#nxdata), [**NXdetector**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdetector.html#nxdetector), [**NXedge**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXedge.html#nxedge), [**NXelement**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXelement.html#nxelement), [**NXentry**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXentry.html#nxentry), [**NXinstrument**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXinstrument.html#nxinstrument), [**NXmonochromator**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXmonochromator.html#nxmonochromator), [**NXprocess**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXprocess.html#nxprocess), [**NXsample**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsample.html#nxsample), [**NXsource**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsource.html#nxsource), [**NXuser**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXuser.html#nxuser), [**NXxas\_mode**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXxas_mode.html#nxxas-mode) [NXmonitor not used, was in 3.3.2.26]

# Structure:

## ENTRY: (required) [**NXentry**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXentry.html#nxentry)

The label on the NXentry in the HDF5 file can be used to generate the @id in the CDIF JSON-LD

### definition:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXentry.html#nxentry-definition-field)

Official NeXus NXDL schema to which this file conforms. TODO: replace NXxas

Obligatory value: NXxas\_new

This goes in dcterms:conformsTo for the schema:distribution/DataDownload for this file

### calculated:

(optional) [**NX\_BOOLEAN**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-boolean) {units=[**NX\_UNITLESS**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-unitless)}

Specify if the data comes from a calculation

Add property, no corresponding CDIF property

### energy:

(required) [**NX\_FLOAT**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-float) (Rank: 1, Dimensions: [nEnergy]) {units=[**NX\_ENERGY**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-energy)}

TODO

This is a data array; Energy is one of the variables that will be described in the CDIF metadata. The data arrays are linked to various nodes in the HDF5 graph, only need to provide one path to values in the metadata record.

### intensity:

(required) [**NX\_FLOAT**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-float) (Rank: 1, Dimensions: [nEnergy]) {units=[**NX\_ANY**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-any)}

TODO

This is a data array; ‘intensity’ is one of the variables that will be described in the CDIF metadata. I assume this is either transmitted intensity or fluorescence intensity.

### intensity\_errors:

(required) [**NX\_FLOAT**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-float) (Rank: 1, Dimensions: [nEnergy]) {units=[**NX\_ANY**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-any)}

TODO

This is a data array; ‘intensity\_error’ is one of the variables that will be described in the CDIF metadata. A DDI-CDI descriptor variable linkt to ‘intensity’.

### mode:

(required) [**NXxas\_mode**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXxas_mode.html#nxxas-mode)

XAS measurement mode

This isifferent from Monitor/mode in NXxas (3.3.2.26)

#### name:

put in schema:MeasurementTechnique. Note that these different modes will imply different data arrays.

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsample.html#nxsample-name-field)

X-ray absorption spectroscopy (XAS) is a technique that measures the absorption coefficient of a material as a function of energy.

The name of the XAS mode indicates the type of process being monitored to obtain the spectrum. Any of these values:

* transmission: Transmission
* tfy: Total Fluorescence Yield
* pfy: Partial Fluorescence Yield
* ipfy: Inverse Partial Fluorescence Yield
* herfd: High Energy Resolution Fluorescence Detected
* tey: Total Electron Yield
* pey: Partial Electron Yield
* eels: Electron Energy Loss
* raman: X-ray Raman Scattering
* dafs: Diffraction Anomalous Fine Structure
* xeol: X-ray Excited Optical Luminescence
* reflexafs: Grazing Angle Reflection Extended X-ray Absorption Fine Structure
* other: Other

### element:

(required) [**NXelement**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXelement.html#nxelement)

Excited element

put in schema:keywords/Keyword. Use defined term to scope to element vocabulary

#### symbol:

(optional) [NX\_CHAR](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char)

#### oxidation**\_**state:

(optional) [NX\_CHAR](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char)

### edge:

put in schema: keywords/Keyword. Use defined term to scope to absorption edge vocabulary

(required) [**NXedge**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXedge.html#nxedge)

Absorption edge

#### name:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsample.html#nxsample-name-field)

### SAMPLE:

(required) [**NXsample**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsample.html#nxsample) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXentry.html#nxentry-sample-group)

#### name:

prov: wasGeneratedBy: {

"@type": ["Event","nx:analysisEvent" ],

…..

{"schema:mainEntity": {  
 "@type": "schema:Thing",  
 "schema:additionalType": "MaterialSample",  
 "schema:name": "…",

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsample.html#nxsample-name-field)

Descriptive name of the sample

### PROCESS:

(optional) [**NXprocess**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXprocess.html#nxprocess) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXentry.html#nxentry-process-group)

Description on how [energy](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-energy-field) and [intensity](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-intensity-field) were obtained from the raw data.

prov: wasGeneratedBy / Event . Make processing a second event . Not sure what kind of information is avaialble here, details need to be figured out.

### INSTRUMENT:

(optional) [**NXinstrument**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXinstrument.html#nxinstrument) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXentry.html#nxentry-instrument-group)

Need to define extension vocabulary to include classes for ‘instrument’ and the various instrument componetns (beamline, detector, source…). For now invent ‘nx:’ namespace as place holder. nx:instrument value is an array of instrument components. Schema.org does not have a type for instrument, so type as schema:Thing, and use schema:additionalType to categorize the component types, and schema:additionalProperty to assert the properties

#### SOURCE:

(required) [**NXsource**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsource.html#nxsource) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXinstrument.html#nxinstrument-source-group)

##### type:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsource.html#nxsource-type-field)

nx:instrument: [ {

"@type":"Thing",

"schema:additionalType": nx:Source: {

"schema:additionalProperty": [

{ "schema:propertyID": "nx:type",

"schema:value": … } … }

##### name:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsource.html#nxsource-name-field)

"schema:name"

##### probe:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXsource.html#nxsource-probe-field)

Obligatory value: x-ray

nx:instrument: [ {

"@type":"Thing",

"schema:additionalType": nx:Source: {

"schema:additionalProperty": [

{ "schema:propertyID": "nx:probe",

"schema:value":"x-ray"} … }

Required to be a constant

#### MONOCHROMATOR:

(optional) [**NXmonochromator**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXmonochromator.html#nxmonochromator) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXinstrument.html#nxinstrument-monochromator-group)

##### energy:

(optional) [**NX\_FLOAT**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-float) (Rank: 1, Dimensions: [nEnergy]) {units=[**NX\_ENERGY**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-energy)} [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXmonochromator.html#nxmonochromator-energy-field)

This is a data array, I assume equivalent to NXentry/energy array. Use same variable

##### crystal:

see descriptioni in Source section above.

(optional) [**NXcrystal**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcrystal.html#nxcrystal) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXmonochromator.html#nxmonochromator-crystal-group)

###### d\_spacing:

(required) [**NX\_FLOAT**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-float) {units=[**NX\_LENGTH**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-length)} [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcrystal.html#nxcrystal-d-spacing-field)

spacing between crystal planes of the reflection

nx:instrument: [ {

"@type":"Thing",

"schema:additionalType": nx:Monochromator: {

"schema:additionalProperty": [

{ "schema:propertyID": "nx:d\_spacing",

"schema:value": … } … }

###### type:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcrystal.html#nxcrystal-type-field)

Type or material of monochromating substance (Si, Ge, Multilayer).

Like above, but "schema:propertyID": "nx:type",

###### reflection:

(required) [**NX\_INT**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-int) (Rank: 1, Dimensions: [3]) {units=[**NX\_UNITLESS**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-unitless)} [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcrystal.html#nxcrystal-reflection-field)

Miller indices (hkl) values of nominal reflection

Like above, but "schema:propertyID": "nx:reflection",

Value is a an array of three integers for miller indices of reflection plane.

#### DETECTOR: (optional) [**NXdetector**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdetector.html#nxdetector) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXinstrument.html#nxinstrument-detector-group)

##### data:

(required) [**NX\_NUMBER**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-number) (Rank: 1, Dimensions: [nEnergy]) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdetector.html#nxdetector-data-field)

This is a data array, but no clear which variable, spec need clarification

#### i0: (optional) [**NXdetector**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdetector.html#nxdetector) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXinstrument.html#nxinstrument-detector-group)

##### data:

(required) [**NX\_NUMBER**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-number) (Rank: 1, Dimensions: [nEnergy]) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdetector.html#nxdetector-data-field)

This is a data array, I0 is described as a variable

#### DATA: (optional) [**NXdata**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdata.html#nxdata) [**⤆**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXentry.html#nxentry-data-group)

XAS intensity versus energy plot

##### energy:

[**link**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/design.html#design-links) (suggested target: /NXentry/energy)

This is a link todata array, variable already described

##### intensity:

[**link**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/design.html#design-links) (suggested target: /NXentry/intensity)

This is a link todata array, variable already described

#### COLLECTION:

(optional) [**NXcollection**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcollection.html#nxcollection)

Use [NXcollection](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXcollection.html#nxcollection) to gather together any set of terms. The original suggestion is to use this as a container class for the description of a beamline.

Apparently an array of all the data; is Nxscan in some data instances. Column names in the array are in the columns Dataset. The first several columns in example data are the energy and intensity data already identified as separate arrays, other columns are details about experiment, we need expert advice on whether these need to be described in the metadata.

##### DATA:

(optional) [**NXdata**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXdata.html#nxdata)

Table like data structure common in the XAS domain.

###### data:

(required) [**NX\_NUMBER**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-number) (Rank: 2, Dimensions: [nChan, nEnergy])

###### columns:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char) (Rank: 1, Dimensions: [nChan])

###### data\_collector:

"schema:contributor": [

{ "@type": "schema:Role",

"schema:roleName": "Collector",

"schema:contributor": {

"@type": "schema:Person",

"@id": "https://orcid.org/3467548",

"schema:name": "Gooddata, Xavier",

"schema:identifier": " https://orcid.org/3467548"

} }…. ],

(optional) [**NXuser**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/base_classes/NXuser.html#nxuser)

name:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char)

orcid:

(required) [**NX\_CHAR**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/nxdl-types.html#nx-char)

## Hypertext Anchors

List of hypertext anchors for all groups, fields, attributes, and links defined in this class.

[**/NXxas\_new/ENTRY-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-group)

[**/NXxas\_new/ENTRY/calculated-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-calculated-field)

[**/NXxas\_new/ENTRY/COLLECTION-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-collection-group)

[**/NXxas\_new/ENTRY/COLLECTION/DATA-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-collection-data-group)

[**/NXxas\_new/ENTRY/COLLECTION/DATA/columns-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-collection-data-columns-field)

[**/NXxas\_new/ENTRY/COLLECTION/DATA/data-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-collection-data-data-field)

[**/NXxas\_new/ENTRY/COLLECTION/DATA/data\_collector-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-collection-data-data-collector-group)

[**/NXxas\_new/ENTRY/COLLECTION/DATA/data\_collector/name-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-collection-data-data-collector-name-field)

[**/NXxas\_new/ENTRY/COLLECTION/DATA/data\_collector/orcid-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-collection-data-data-collector-orcid-field)

[**/NXxas\_new/ENTRY/DATA-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-data-group)

[**/NXxas\_new/ENTRY/DATA/energy-link**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-data-energy-link)

[**/NXxas\_new/ENTRY/DATA/intensity-link**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-data-intensity-link)

[**/NXxas\_new/ENTRY/definition-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-definition-field)

[**/NXxas\_new/ENTRY/edge-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-edge-group)

[**/NXxas\_new/ENTRY/element-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-element-group)

[**/NXxas\_new/ENTRY/energy-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-energy-field)

[**/NXxas\_new/ENTRY/INSTRUMENT-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-group)

[**/NXxas\_new/ENTRY/INSTRUMENT/DETECTOR-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-detector-group)

[**/NXxas\_new/ENTRY/INSTRUMENT/DETECTOR/data-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-detector-data-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/i0-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-i0-group)

[**/NXxas\_new/ENTRY/INSTRUMENT/i0/data-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-i0-data-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/monochromator-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-monochromator-group)

[**/NXxas\_new/ENTRY/INSTRUMENT/monochromator/crystal-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-monochromator-crystal-group)

[**/NXxas\_new/ENTRY/INSTRUMENT/monochromator/crystal/d\_spacing-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-monochromator-crystal-d-spacing-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/monochromator/crystal/reflection-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-monochromator-crystal-reflection-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/monochromator/crystal/type-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-monochromator-crystal-type-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/monochromator/energy-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-monochromator-energy-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/SOURCE-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-source-group)

[**/NXxas\_new/ENTRY/INSTRUMENT/SOURCE/name-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-source-name-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/SOURCE/probe-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-source-probe-field)

[**/NXxas\_new/ENTRY/INSTRUMENT/SOURCE/type-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-instrument-source-type-field)

[**/NXxas\_new/ENTRY/intensity-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-intensity-field)

[**/NXxas\_new/ENTRY/intensity\_errors-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-intensity-errors-field)

[**/NXxas\_new/ENTRY/mode-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-mode-group)

[**/NXxas\_new/ENTRY/PROCESS-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-process-group)

[**/NXxas\_new/ENTRY/SAMPLE-group**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-sample-group)

[**/NXxas\_new/ENTRY/SAMPLE/name-field**](https://nxxas-hdf5-nexus-7ba1891a1aaa2d29580131298dc337bab2b3e5de32b6ef.gitlab-pages.esrf.fr/classes/applications/NXxas_new.html#nxxas-new-entry-sample-name-field)

NXDL Source:

[**https://github.com/nexusformat/definitions/blob/main/applications/NXxas\_new.nxdl.xml**](https://github.com/nexusformat/definitions/blob/main/applications/NXxas_new.nxdl.xml)