3.3.1.17. NXentry

Status:

base class, extends NXobject, version 1.0

Description:

(**required**) NXentry describes the measurement.

The top-level NeXus group which contains all the data and associated information that comprise a single measurement. It is mandatory that there is at least one group of this type in the NeXus file.

Symbols:

No symbol table

Groups cited:

NXcharacterization, NXcollection, NXdata, NXinstrument, NXmonitor, NXnote, NXparameters, NXprocess, NXsample, NXsubentry, NXuser

Structure:

@default: (optional) NX_CHAR

Declares which NXdata (or NXsubentry) group contains the data to be shown by default. It is needed to resolve ambiguity when more than one NXdata group exists. The value is the name of the default NXdata group.

It is recommended (as of NIAC2014) to use this attribute to help define the path to the default dataset to be plotted. See http://wiki.nexusformat.org/2014_How_to_find_default_data for a summary of the discussion.

@IDF_Version: (optional) NX_CHAR

ISIS Muon IDF_Version

title: (optional) NX_CHAR

Extended title for entry

experiment_identifier: (optional) NX_CHAR

Unique identifier for the experiment, defined by the facility, possibly linked to the proposals

experiment_description: (optional) NX_CHAR

Brief summary of the experiment, including key objectives.

collection_identifier: (optional) NX_CHAR

User or Data Acquisition defined group of NeXus files or NXentry

collection_description: (optional) NX_CHAR

Brief summary of the collection, including grouping criteria.

entry_identifier: (optional) NX_CHAR

unique identifier for the measurement, defined by the facility.

features: (optional) NX_CHAR

Reserved for furture use by NIAC.

See https://github.com/nexusformat/definitions/issues/382

definition: (optional) NX_CHAR

(alternate use: see same field in NXsubentry for preferred)

Official NeXus NXDL schema to which this entry conforms.

This field is provided so that NXentry can be the overlay position in a NeXus data file for an application definition and its set of groups, fields, and attributes.

It is advised to use NXsubentry, instead, as the overlay position.

@version: (optional) NX_CHAR

NXDL version number

@URL: (optional) NX_CHAR

URL of NXDL file

definition_local: (optional) NX_CHAR

DEPRECATED: see same field in NXsubentry for preferred use

Local NXDL schema extended from the entry specified in the `definition` field. This contains any locally-defined, additional fields in the entry.

@version: (optional) NX_CHAR

NXDL version number

@URL: (optional) NX_CHAR

URL of NXDL file

start_time: (optional) NX_DATE_TIME

Starting time of measurement

end_time: (optional) NX_DATE_TIME

Ending time of measurement

duration: (optional) NX_INT {units=NX_TIME}

Duration of measurement

collection_time: (optional) NX_FLOAT {units=NX_TIME}

Time transpired actually collecting data i.e. taking out time when collection was suspended due to e.g. temperature out of range

run_cycle: (optional) NX_CHAR

Such as “2007-3”. Some user facilities organize their beam time into run cycles.

program_name: (optional) NX_CHAR

Name of program used to generate this file

@version: (optional) NX_CHAR

Program version number

@configuration: (optional) NX_CHAR

configuration of the program

revision: (optional) NX_CHAR

Revision id of the file due to re-calibration, reprocessing, new analysis, new instrument definition format, ...

@comment: (optional) NX_CHAR

pre_sample_flightpath: (optional) NX_FLOAT {units=NX_LENGTH}

This is the flightpath before the sample position. This can be determined by a chopper, by the moderator or the source itself. In other words: it the distance to the component which gives the T0 signal to the detector electronics. If another component in the NXinstrument hierarchy provides this information, this should be a link.

(data): (optional) NXdata

The data group

Note

Before the NIAC2016 meeting [#], at least one NXdata group was required in each NXentry group. At the NIAC2016 meeting, it was decided to make NXdata an optional group in NXentry groups for data files that do not use an application definition. It is recommended strongly that all NeXus data files provide a NXdata group. It is permissable to omit the NXdata group only when defining the default plot is not practical or possible from the available data.

For example, neutron event data may not have anything that makes a useful plot without extensive processing.

Certain application definitions override this decision and require an NXdata group in the NXentry group. The `minOccurs=0` attribute in the application definition will indicate the NXdata group is optional, otherwise, it is required.

[1] NIAC2016: http://wiki.nexusformat.org/NIAC2016, https://github.com/nexusformat/NIAC/issues/16

experiment_documentation: (optional) NXnote

Description of the full experiment (document in pdf, latex, ...)

notes: (optional) NXnote

Notes describing entry

thumbnail: (optional) NXnote

A small image that is representative of the entry. An example of this is a 640x480 jpeg image automatically produced by a low resolution plot of the NXdata.

@type: (optional) NX_CHAR

The mime type should be an `image/*`

Obligatory value: `image/*`

(characterization): (optional) NXcharacterization

(user): (optional) NXuser

(sample): (optional) NXsample

(instrument): (optional) NXinstrument

(collection): (optional) NXcollection

(monitor): (optional) NXmonitor

(parameters): (optional) NXparameters

(process): (optional) NXprocess

(subentry): (optional) NXsubentry

NXDL Source:
https://github.com/nexusformat/definitions/blob/master/base_classes/NXentry.nxdl.xml