

Item	Description	Type	E
Nexus File			
NeXus_version	attribute describing version of NeXus API used to create file	Integer	*
user	attribute denoting scientist who performed experiment	String	*
Nxentry run			
IDF_version	version of IDF that NeXus file conforms to	Integer	*
program_name	name of creating program - "MCS"	String	*
version=	attribute – version of creating program	String	*
number	run number	Integer	*
title	string containing sample, temperature and field	String	*
notes	comment from MCS file	String	*
analysis	type of muon experiment - "muonTD" (muon, time differential)	String	*
lab	origin of experiment – "ISIS" (collected at the ISIS facility)	String	*
beamline	particular beamline used for experiment	String	*
start_time	start time and date of measurement	String	*
end_time	stop time and date of measurement	String	*
duration	calculated duration	String	*
switching_states	"1" – Normal data collection, "2" – Red/Green mode	Integer	*
NXuser user			
name	Scientist(s) name	String	*
	RB number	String	*
experiment_number	Additional information may be added it here using the UIF facility		
NXsample sample			
name	sample name	String	*

temperature	temperature setting	Float	*
units=	attribute, “Kelvin”	String	*
magnetic_field	magnetic Field setting	Float	*
units=	attribute, “Gauss”	String	*
shape	sample orientation	String	
	mode, e.g. “TF”	String	*
magnetic_field_state			
	vector describing magnetic field orientation	Float []	*
magnetic_field_vector			
	attribute, “cartesian”	String	*
coordinate_system=			
units=	attribute, “gauss”	String	*
environment	rig, e.g. “CCR”	String	*
	link to log of temperature values obtain from	NXlink	
temperature_log_1	‘.TLOG’ file		
Nxinstrument			
instrument			
name	instrument name	String	*
NXdetector			
detector			
number	number of detectors	Integer	*
orientation	detector arrangement, ‘Longitudinal (“l”)’ or ‘Transverse (“t”)’	Character	
angles	2D array defining detector positions (<i>see Note 1</i>)	Float [] []	
	attribute, “spherical”	String	
coordinate_system=			
available=	attribute “1” if angles are available, otherwise “0”	Integer	
deadtimes	1D array of detector deadtime values (<i>see Note 2</i>)	Float []	

units=	attribute, “microseconds”	String	
available=	attribute, “1” if deadtime values are available, otherwise “0”	Integer	
NXcollimator			
collimator			
type	e.g. “Slits” (not defined in MCS file)	String	*
aperture	e.g. slit setting (not defined in MCS file)	String	
NXbeam beam			
event_log_1	link to log of events obtained from ‘.MACQLOG’ file	NXlink	
total_counts	total number of counts	Float	
units=	attribute, “Mev”	String	
daereads	number of readouts from DAE	Integer	
frames	number of ISIS frames collected	Integer	
NXdata	(see Note 3)		
histogram_data_1			
counts	2D array of counts: (detector number*switching_states) vs. bin	Integer [] []	*
units=	“counts”; attribute to describe data units	String	*
signal=	“1”; attribute to indicate signal to be plotted	Integer	*
number=	attribute, number of histograms in NXdata group (see Note 4)	Integer	*
length=	attribute, length of histogram	Integer	*
t0_bin=	attribute, t0 bin value for histograms	Integer	*
first_good_bin=	attribute, first good bin values for histograms	Integer	*
last_good_bin=	attribute, last good bin values for histograms	Integer	*
offset=	attribute giving offset to centre of 1 st bin - 0.5*histogram_resolution	Float	*
units=	“picoseconds”; attribute to describe histogram offset units	String	*

histogram_resolution	histogram resolution, set to zero if not applicable	Integer	*
units=	“picoseconds”; attribute to describe resolution units	String	*
time_zero	time zero for muon measurements (<i>see Note 5</i>)	Integer	*
units=	attribute, “microseconds”	String	*
raw_time	scale for time axis (raw time) in microseconds	Float []	*
axis=	“1”; fastest varying index	Integer	*
primary=	“1”; raw time is the default	Integer	*
units=	attribute, “microseconds”	String	*
corrected_time	scale for time axis (corrected for ‘histogram_timezero’)	Float []	*
axis=	“1”; fastest varying index (2 nd axis)	Integer	*
units=	attribute, “microseconds”	String	*
grouping	1D array defining grouping for histograms in NXdata (<i>see Note 6</i>)	Integer []	*
available=	attribute, number of groups (“0” if information not available)	Integer	*
alpha	2D array, alpha, for pairs of groups defined in ‘grouping’ (<i>see Note 7</i>)	Float [] []	*
available=	attribute, number of pairs for which alpha is defined (“0” if not in use)	Integer	*
NXlog	(<i>see Note 8</i>)		
temperature_log_1			
name	name of log, “sample temperature”	String	
available=	attribute, number of temperature values	Integer	
values	log of temperature values obtained from ‘.TLOG’ file	Float []	
units=	attribute, units of temperature logged “Kelvin”	String	
time	time stamp, seconds from start of run	Float []	
units=	attribute, “seconds”	String	

NXlog event_log_1		
name	name of log, "ISIS beam"	String
available=	attribute, number of event values	Integer
values	log of events obtained from '.MACQLOG' file	Float []
units=	attribute, units of events logged "counts"	String
time	time stamp, seconds from start of run	Float []
units=	attribute, "seconds"	String

** denotes elements that must be contained within any μ SR NeXus file*