

rf_ucd	String	CoordSys.RedshiftFrame.UCD	meta.ucd	Redshift frame UCD	
rf_refpos	String	CoordSys.RedshiftFrame.RefPos		Redshift frame origin	
rf_doppler	String	CoordSys.RedshiftFrame.DopplerDefinition		Type of redshift	
ff_id	String	CoordSys.FluxFrame.ID	meta.id	Flux (observable) frame metadata	
ff_name	String	CoordSys.FluxFrame.Name		ID string for flux frame	
ff_ucd	String	CoordSys.FluxFrame.UCD	meta.ucd	Name of photometric band	
ff_refid	String	CoordSys.FluxFrame.refID	meta.ref.ivorn	UCD for photometric calibration	
				URI for photometric calibration	

		Char.SpatialAxis		Spatial Axis Characterization	
s_name	String	Char.SpatialAxis.Name	meta.id	Name for spatial axis	
s_ucd	String	Char.SpatialAxis.UCD	meta.ucd	UCD for spatial coord	SKY_UCD
s_unit	String	Char.SpatialAxis.Unit	meta.unit	Unit for spatial coord	
s_ra	Double	Char.SpatialAxis.Coverage.Location.Coord.Position2D.Value2.C1	pos.eq.ra;meta.main	Spatial position first coordinate	
s_dec	Double	Char.SpatialAxis.Coverage.Location.Coord.Position2D.Value2.C2	pos.eq.dec;meta.main	Spatial position second coordinate	
s_fov	Double	Char.SpatialAxis.Coverage.Bounds.Extent.Diameter	pos.AngDistance;instr.fov	Diameter of field of view	
s_lo_ra	Double	Char.SpatialAxis.Coverage.Bounds.Limits.LoLimit2Vec.C1	pos.eq.ra	Lower bounds of image spatial coordinates	
s_lo_dec	Double	Char.SpatialAxis.Coverage.Bounds.Limits.LoLimit2Vec.C2	pos.eq.dec	Lower bounds of image spatial coordinates	
s_hi_ra	Double	Char.SpatialAxis.Coverage.Bounds.Limits.HiLimit2Vec.C1	pos.eq.ra	Higher bounds of image spatial coordinates	
s_hi_dec	Double	Char.SpatialAxis.Coverage.Bounds.Limits.HiLimit2Vec.C2	pos.eq.dec	Higher bounds of image spatial coordinates	
s_region	AstroCoordArea	Char.SpatialAxis.Coverage.Support.Area		Aperture region	REGION
s_area	Double	Char.SpatialAxis.Coverage.Support.Extent	pos.AngDistance;instr.fov	Filled area of aperture region	AREA
s_extent	Double	Char.SpatialAxis.Sampling.SampleExtent	phys.angSize;instr.pixel	Spatial bin size	
s_fillfactor	Double	Char.SpatialAxis.Sampling.RefVal.FillFactor	stat.filling;pos	Spatial sampling filling factor	SKY_FILL
s_stat_error	Double	Char.SpatialAxis.Accuracy.StatError.RefVal.Value	stat.error;pos.eq	Astrometric statistical error	SKY_ERR
s_sys_error	Double	Char.SpatialAxis.Accuracy.SysError.RefVal.Value	stat.error.sys;pos.eq	Astrometric systematic error	SKY_SYE
s_calib_status	String	Char.SpatialAxis.CalibrationStatus	meta.code.qual	Type of spatial coord calibration	SKY_CAL
s_resolution	Double	Char.SpatialAxis.Resolution.RefVal.Value	pos.angResolution	Spatial resolution of data	SKY_RES
s_resolution_min	Double	Char.SpatialAxis.Resolution.Bounds.Limits.LoLimit	pos.angResolution	Lower limit of spatial resolution	
s_resolution_max	Double	Char.SpatialAxis.Resolution.Bounds.Limits.HiLimit	pos.angResolution	Upper limit of spatial resolution	

		Char.SpectralAxis		Spectral Axis Characterization	
em_name	String	Char.SpectralAxis.Name	meta.id	Name for spectral axis	
em_ucd	String	Char.SpectralAxis.UCD	meta.ucd	UCD for spectral coord	
em_unit	String	Char.SpectralAxis.Unit	meta.unit	Unit for spectral coord	
em_bandpass	Double	Char.SpectralAxis.Coverage.Location.Coord	em.wl;instr.bandpass	Spectral coord value	SPEC_VAL
em_bandwidth	Double	Char.SpectralAxis.Coverage.Bounds.Extent	em.wl;instr.bandwidth	Bounds of spectral coverage	SPEC_BW
em_min	Double	Char.SpectralAxis.Coverage.Bounds.Limits.LoLimit	em.wl;stat.min	Start in spectral coordinate	TDMIN
em_max	Double	Char.SpectralAxis.Coverage.Bounds.Limits.HiLimit	em.wl;stat.max	Stop in spectral coordinate	TDMAX
em_filled_extent	Double	Char.SpectralAxis.Coverage.Support.Extent	em.wl;instr.bandwidth	Width of filled area of spectral coverage	
em_binsize	Double	Char.SpectralAxis.Sampling.SampleExtent	em.wl;spect.binSize	Wavelength bin size	
em_fill_factor	Double	Char.SpectralAxis.Sampling.RefVal.FillFactor	stat.filling;em	Spectral sampling filling factor	SPEC_FILL
em_stat_error	Double	Char.SpectralAxis.Accuracy.StatError.RefVal.value	stat.error;em	Spectral coord statistical error	SPEC_ERR
em_sys_error	Double	Char.SpectralAxis.Accuracy.SysError.RefVal.value	stat.error.sys;em	Spectral coord systematic error	SPEC_SYE
em_calib_status	String	Char.SpectralAxis.CalibrationStatus	meta.code.qual	Type of spectral coord calibration	SPEC_CAL
em_resolution	Double	Char.SpectralAxis.Resolution.RefVal.value	spect.resolution;em.wl	Spectral resolution FWHM	SPEC_RES
em_respower	Double	Char.SpectralAxis.Resolution.ResolPower.RefVal	spect.resolution	Spectral resolving power	SPEC_RP
em_respower_min	Double	Char.SpectralAxis.Resolution.ResolPower.LoLimit	spect.resolution	Low bound of spectral resolving power	
em_respower_max	Double	Char.SpectralAxis.Resolution.ResolPower.HiLimit	spect.resolution	High bound of spectral resolving power	

		Char.TimeAxis		Time Axis Characterization	
t_name	String	Char.TimeAxis.Name	meta.id	Name for time axis	
t_ucd	String	Char.TimeAxis.UCD	meta.ucd	UCD for time	
t_unit	String	Char.TimeAxis.Unit	meta.unit	Unit for time	TIMEUNIT
t_midpoint	Double	Char.TimeAxis.Coverage.Location.Coord	time.epoch;obs	Midpoint of exposure on MJD scale	DATE-OBS
t_extent	Double	Char.TimeAxis.Coverage.Bounds.Extent	time.duration;obs.exposure	Total exposure time	TELAPSE
t_min	Double	Char.TimeAxis.Coverage.Bounds.Limits.StartTime	time.start;obs.exposure	Start time	TSTART
t_max	Double	Char.TimeAxis.Coverage.Bounds.Limits.StopTime	time.stop;obs.exposure	Stop time	TSTOP
t_exptime	Double	Char.TimeAxis.Coverage.Support.Extent	time.duration;obs.exposure	Effective exposure time	EXPOSURE
t_binsize	Double	Char.TimeAxis.Sampling.SampleExtent	time.interval	Time bin size	
t_fill_factor	Double	Char.TimeAxis.Sampling.RefVal.FillFactor	stat.filling;time	Time sampling filling factor	DTCOR
t_stat_error	Double	Char.TimeAxis.Accuracy.StatError.RefVal.value	stat.error;time	Time coord statistical error	TIME_ERR
t_sys_error	Double	Char.TimeAxis.Accuracy.SysError.RefVal.value	stat.error.sys;time	Time coord systematic error	TIME_SYE
t_calib_status	String	Char.TimeAxis.CalibrationStatus	meta.code.qual	Type of coord calibration	TIME_CAL
t_resolution	Double	Char.TimeAxis.Resolution.RefVal.value	time.resolution	Time resolution FWHM	TIME_RES

		Char.ObservableAxis		Observable Axis Characterization	
o_name	String	Char.ObservableAxis.Name	meta.id	Name for observable axis	
o_ucd	String	Char.ObservableAxis.UCD	meta.ucd	UCD for observable	
o_unit	String	Char.ObservableAxis.Unit	meta.unit	Unit for observable	
o_stat_error	Double	Char.ObservableAxis.Accuracy.StatError.RefVal.value	stat.error;phot.flux.density;em	Observable statistical error	STAT_ERR
o_sys_error	Double	Char.ObservableAxis.Accuracy.SysError.RefVal.value	stat.error.sys;phot.flux.density	Observable systematic error	STAT_ERR
o_calib_status	String	Char.ObservableAxis.CalibrationStatus	meta.code.qual	Level of calibration	FLUX_CAL

		Char.PolAxis		Polarization Axis Characterization	
pol_axis_name	String	Char.PolAxis.Name	meta.id	Name for polarization axis	
pol_ucd	String	Char.PolAxis.UCD	meta.ucd	UCD for polarization type	
pol_states	String	Char.PolAxis.StateList		List of polarization states present	

#	Field ID	Type	UTYPE	UCD	Description	FITS	CSV
##	DATA Model		Data		Data Element		
	data_id	String	Data.ID		ID string of data element		
	data_naxes	Long	Data.Naxes		Number of axes (dimensionality)	NAXIS	
	data_naxis	Long[]	Data.Naxis		Length of each axis	NAXIS	
	data_pixtype	String	Data.Pixtype		Pixel datatype	BITPIX	
	data_encoding	String	Data.Encoding		Type of encoding used for array data		
	data_length	Long	Data.Length		Array length in pixels (actual count if sparse)		
	data_size	Long	Data.Size		Array length in bytes		
	data_values	Void*	Data.Values		Array data (not included in all instances)		
			Data.Mapping		Mapping (WCS) Metadata		
	map_naxes	Long	Data.Mapping.WCSNaxes		Number of WCS axes	WCSEXES	
	map_name	String	Data.Mapping.WCSName		Name for the overall WCS	WCNAME	
	map_refpixel	Double[]	Data.Mapping.RefPixel		Reference pixel	CRPIX	
	map_refvalue	Double[]	Data.Mapping.RefValue		WCS value at reference pixel	CRVAL	
	map_cdmatrix	Double[]	Data.Mapping.CDMatrix		Coord definition matrix	CD	
	map_pcmatrix	Double[]	Data.Mapping.PCMatrix		Coord definition matrix	PC	
	map_cdelt	Double[]	Data.Mapping.Cdelt		World coord increment per pixel	CDELTA	
	map_axismap	String[]	Data.Mapping.AxisMap		Image-to-WCS axis mapping		
			Data.Mapping.Axis		Axis		
	axis_ctype	String	Data.Mapping.Axis.CoordType		Coordinate type	CTYPE	
	axis_unit	String	Data.Mapping.Axis.Unit		Coordinate unit	CUNIT	
	axis_name	String	Data.Mapping.Axis.Name		Axis name	CNAME	
	axis_cval	Double[]	Data.Mapping.Axis.CoordValue		Table of explicit coordinate values		
	axis_cidx	Double[]	Data.Mapping.Axis.CoordIndex		Index into CoordValue		

xs_ctype	String	SpatialAxis	Data.Mapping.SpatialAxis	Coordinate type for final world coordinates	CTYPE
xs_algo	String		Data.Mapping.SpatialAxis.CoordType	Algorithm used for nonlinear term	CTYPE
xs_frame	String		Data.Mapping.SpatialAxis.CoordFrame	Coordinate system or frame for final coords	RADECSYS
xs_equinox	Double		Data.Mapping.SpatialAxis.Equinox	Coordinate equinox if needed for frame	EQUINOX
xs_unit	String		Data.Mapping.SpatialAxis.Unit	Unit for coordinate value	CUNIT
xs_name	String[]		Data.Mapping.SpatialAxis.Name	Spatial axis names	CNAME
xs_pv	Double[]		Data.Mapping.SpatialAxis.PV	Optional parameters for transform	PV
xs_ps	String[]		Data.Mapping.SpatialAxis.PS	Optional parameters for transform	PS
xs_lonpole	Double		Data.Mapping.SpatialAxis.LonPole	Native longitude of the celestial pole	LONPOLE
xs_latpole	Double		Data.Mapping.SpatialAxis.LatPole	Native latitude of the celestial pole	LATPOLE
xs_cv	Double[]		Data.Mapping.SpatialAxis.CoordValue	Table of explicit spatial coordinate values	
xs_cidx1	Double[]		Data.Mapping.SpatialAxis.CoordIndex1	Index for first coordinate	
xs_cidx2	Double[]		Data.Mapping.SpatialAxis.CoordIndex2	Index for second coordinate	
		SpectralAxis	Data.Mapping.SpectralAxis		
xe_ctype	String		Data.Mapping.SpectralAxis.CoordType	Coordinate type as in FITS	CTYPE
xe_algo	String		Data.Mapping.SpectralAxis.Algorithm	Algorithm type as in FITS	CTYPE
xe_restfreq	Double		Data.Mapping.SpectralAxis.RestFreq	Rest frequency of spectral line	RESTFRQ
xe_restwave	Double		Data.Mapping.SpectralAxis.RestWave	Rest wavelength of spectral line	RESTWAV
xe_unit	String		Data.Mapping.SpectralAxis.Unit	Unit for coordinate value	CUNIT
xe_name	String		Data.Mapping.SpectralAxis.Name	Axis name	CNAME
xe_pv	Double[]		Data.Mapping.SpectralAxis.PV	Optional parameters for transform	PV
xe_ps	String[]		Data.Mapping.SpectralAxis.PS	Optional parameters for transform	PS
xe_cval	Double[]		Data.Mapping.SpectralAxis.CoordValue	Table of explicit spectral coordinate values	
xe_cidx	Double[]		Data.Mapping.SpectralAxis.CoordIndex	Index into CoordValue	
		TimeAxis	Data.Mapping.TimeAxis		
xt_ctype	String		Data.Mapping.TimeAxis.CoordType	Time scale	CTYPE TIMESYS
xt_refpos	String		Data.Mapping.TimeAxis.RefPosition	Time reference position	TREFPOS
xt_refdir	String		Data.Mapping.TimeAxis.RefDirection	Time reference direction	TREFDIR
xt_mjdref	Double		Data.Mapping.TimeAxis.MJDRef	MJD time zero (for times expressed as offsets)	MJDREF
xt_unit	String		Data.Mapping.TimeAxis.Unit	Time unit	CUNIT
xt_name	String		Data.Mapping.TimeAxis.Name	Time axis name	CNAME
xt_cv	Double[]		Data.Mapping.TimeAxis.CoordValue	Table of explicit time coordinate values	
xt_cidx	Double[]		Data.Mapping.TimeAxis.CoordIndex	Index into CoordValue	
		PoiAxis	Data.Mapping.PoiAxis		
xp_ctype	String		Data.Mapping.PoiAxis.CoordType	Coordinate type as in FITS	CTYPE
xp_name	String		Data.Mapping.PoiAxis.Name	Polarization axis name	CNAME
xp_state	String[]		Data.Mapping.PoiAxis.CoordValue	Polarization state at pixel index	
		ObsData	Data.ObsData		
obsdata_type	String		Data.ObsData.DataProductType	Primary data product type (as in ObsCoreDM)	
obsdata_subtype	String		Data.ObsData.DataProductSubtype	Data product specific type	
obsdata_calib_level	Long		Data.ObsData.CalibLevel	Calibration level	
obsdata_url	URL		Data.ObsData.Reference	URL used to access the dataset	
obsdata_format	String		Data.ObsData.Format	Content format of the dataset	
obsdata_estsize	Long		Data.ObsData.Size	Estimated dataset size	

Observational Data Reference

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