

TAP mwa.observation Schema and Examples

Describes details of a single MWA observation.

Column Name	Data Type	Description
obs_id	BIGINT	Observation ID- unique identifier of an MWA observation
starttime	BIGINT	GPS Start time of observation
stoptime	BIGINT	GPS Stop time of observation
duration	INTEGER	Length of observation in seconds
starttime_mjd	REAL	MJD Start time of observation
stoptime_mjd	REAL	MJD Stop time of observation
starttime_utc	TIMESTAMP	UTC Start time of observation
stoptime_utc	TIMESTAMP	UTC Stop time of observation
starttime_mro	TIMESTAMP	Start time of observation (local MRO time)
stoptime_mro	TIMESTAMP	Stop time of observation (local MRO time)
obsname	VARCHAR (255)	Name of observation
creator	VARCHAR (255)	Name of the creator of the observation
modtime	TIMESTAMP	Last modification date time of the observation (AWST)
mode	VARCHAR (50)	Observing mode (HW_LFILES are correlator observations; VOLTAGE_START/VOLTAGE_BUFFER are voltage capture system VCS observations)
projectid	VARCHAR (50)	Proposal / project identifier
projectshortname	VARCHAR (255)	Short name of proposal / project identifier
projectdescription	VARCHAR (255)	Description of proposal / project Identifier
dataquality	INTEGER	Data quality code
dataqualityname	VARCHAR (255)	Data quality description
dataqualitycomment	VARCHAR (2048)	Data quality comment - extra hand written comments on this observations data quality
deleted_flag	BOOLEAN	Has this observations files been deleted?
vcs_recombined_flag	BOOLEAN	For voltage capture system (VCS) observations- has this observation been recombined?
int_time	REAL	Correlator mode integration time (seconds)
freq_res	REAL	Correlator mode frequency averaging / fine channel width (kHz)
ra	REAL	Right ascension (ICRS, J2000.0). (Uses ra_phase if exists, otherwise ra_pointing)
dec	REAL	Declination (ICRS, J2000.0). (Uses dec_phase if exists, otherwise dec_pointing)
ra_pointing	REAL	Right ascension (ICRS, J2000.0) of pointing centre at mid-time of the observation. (Pointing centre is aligned to the beamformer grid name and grid number)
dec_pointing	REAL	Declination (ICRS, J2000.0) of pointing centre at mid-time of the observation. (Pointing centre is aligned to the beamformer grid name and grid number)

ra_phase_center	REAL	Right ascension (ICRS, J2000.0) of phase centre at mid-time of the observation
dec_phase_center	REAL	Declination (ICRS, J2000.0) of phase centre at mid-time of the observation
azimuth_pointing	REAL	Azimuth of target at mid-time of the observation (decimal degrees)
elevation_pointing	REAL	Elevation of target at mid-time of the observation (decimal degrees)
azimuth	REAL	Azimuth, in decimal degrees, of pointing aligned to the beamformer grid name and grid number
elevation	REAL	Elevation, in decimal degrees, of pointing aligned to the beamformer grid name and grid number
sky_temp	REAL	Sky temperature (K)
calibration	BOOLEAN	Is this an observations used for calibration?
calibrators	VARCHAR (255)	If calibration is true what are the calibrator(s) used
gridpoint_name	VARCHAR (50)	Name of the pointing grid used by this observation
gridpoint_number	INTEGER	Gridpoint number for this Observation
local_sidereal_time_deg	REAL	Local sidereal time (decimal degrees) of observation
sun_elevation	REAL	Elevation of the Sun at the mid-time of the observation (decimal degrees)
sun_pointing_distance	REAL	Distance of the Sun from pointing center at mid-time of the observation (decimal degrees)
jupiter_pointing_distance	REAL	Distance of Jupiter from pointing center at mid-time of the observation (decimal degrees)
moon_pointing_distance	REAL	Distance of the Moon from pointing center at mid-time of the observation (decimal degrees)
first_channel_number	INTEGER	First frequency channel number
center_channel_number	INTEGER	Center frequency channel number
last_channel_number	INTEGER	Last frequency channel number
first_channel_lowest_frequency_mhz	REAL	Lower bound frequency of first channel in MHz
center_frequency_mhz	REAL	Center frequency in MHz
last_channel_highest_frequency_mhz	REAL	Upper bound frequency of last channel in MHz
channels_are_contiguous	BOOLEAN	Are the coarse channels contiguous?
channel_count	INTEGER	Count of channel_width_mhz coarse channels
channel_width_mhz	REAL	Width of each coarse channel in MHz
mwa_array_configuration	VARCHAR	The configuration of MWA telescope at the time of this observation
groupid	BIGINT	All observations with this groupid are part of the same observing session.
vcs_files_raw_total	BIGINT	Total number of VCS raw files for this observation
vcs_files_raw_archived	BIGINT	Total number of VCS raw files archived for this observation
vcs_files_ics_archived	BIGINT	Total number of VCS incoherent sum (ICS) files archived for this observation
vcs_files_tar_archived	BIGINT	Total number of VCS recombined (tar) files archived for this observation
gpubox_files_total	BIGINT	Total number of gpubox (visibility) files produced in this observation
gpubox_files_archived	BIGINT	Total number of gpubox (visibility) files archived for this observation
flag_files_exist	BOOLEAN	Do precomputed RFI flag files exist for this observation (compatible with aoflagger)
total_archived_data_bytes	BIGINT	Total bytes archived for this observation (excluding deleted files)
files_deleted	BIGINT	Total number of files deleted for this observation
files_deleted_bytes	BIGINT	Total bytes deleted for this observation

data_files_summary	VARCHAR (255)	Summary of data files. For HW_LFILES- gpubox files archived. For VOLTAGE_START and VOLTAGE_BUFFER- archived raw seconds/archived recombined seconds
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