PSRFITS – ObsCore mapping

- Prototype ObsCore service for Pulsar data in Nançay.
  TAP server: http://vogate.obs-nancay.fr/tap

- A few files are listed in the ObsCore table

- https://www.atnf.csiro.au/research/pulsar/psrfits_definition/PsrfitsDocumentation.html

Space & Time

Main Header

STT_IMJD= * / Start MJD (UTC days) (J - long integer)

Modified Julian UTC Day number for the reference start time of an observation. The start time is defined to be the leading edge of the first bin for fold-mode observations and the leading edge of the first sample for search-mode observations.

STT_SMJD= * / [s] Start time (sec past UTC 00h) (J)

Integer seconds from 00h UTC for the reference start time of an observation.

STT_OFFS= * / [s] Start time offset (D)

Fractional seconds from STT_SMJD for the reference start time of an observation.

Subintegration data Binary Table Extension

TTYPE# = TSUBINT / Length of subintegration
TFORM# = 1D / Double
TUNIT# = s / Units of field

Duration of sub-integration (or row for search-mode data)

TTYPE# = OFFS_SUB / Offset from Start of subint centre
TFORM# = 1D / Double
TUNIT# = s / Units of field

t_obs_mjd = STT_IMJD + (STT_SMJD + STT_OFFS)/86400
t_min = t_obs_mjd + (OFFS_SUB[0] - TSUBINT[0]/2)/86400
t_max = t_obs_mjd + (OFFS_SUB[-1] - TSUBINT[-1]/2)/86400
t_exptime = (t_max - t_min)*86400
t_resolution = OFFS_SUB[1]

s_ra = RA
s_dec = DEC

Other

Main Header

instrument_name =TELESCOP
facility_name: mapping from TELESCOP
target_name: SRC_NAME
target_class: “pulsar”
product_type: ‘cube’
o_ucd: ‘phot.flux.density'
calib_level: 1
fov: 2.07 (computed for LOFAR international stations)

Flux Calibration Data Binary Table Extension

em_min: C / (max(DAT_FREQ)*1e6)
em_max: C / (min(DAT_FREQ)*1e6)