

spectral lines are Fe 15648 A & Fe 15652 A & Fe 15662 A

PARAMETER FOR CALIBRATION

example path /archive/gris/20140426/level2/26apr14.000_cor_spec.save

CONTI DOUBLE = Array[5] ; define continuum [ccd pixel start, ccd pixel end, counts (quiet sun), counts (low p_tot values), counts (low p_tot values after correction)] -> last value is final
DISP DOUBLE = Array[2] ; spectral dispersion [offset, slope]
FTS DOUBLE = Array[1010, 3] ; FTS atlas [wavelength, intensity, intensity after convolution and contamination from spectral scattered light] -> last spectrum is final
LPAR DOUBLE = Array[3, 5] ; line parameters [line minimum in pixel, line minimum from fit, laboratory wavelength, effective g factor, velocity dispersion in km/s]
PARAM FLOAT = Array[51, 51, 3] ; parameter for FTS degradation [FWHM of Gauss function, scattered light contamination, Merit function] similar to Allende Prieto et al. 2004
SPEC DOUBLE = Array[1010, 3] ; average quiet Sun spectrum [wavelength, intensity, correction curve] -> corrected spectrum is SPEC[* ,1]+SPEC[* ,2]

CALIBRATED STOKES PROFILES

example path /archive/gris/20140426/level2/26apr14.000_stok.save

STOKI FLOAT = Array[101, 105, 471, 3] ; corrected and despiked (switched of a.t.m. due to problems) stokes parameters in a 4 A window around line minimum
STOKQ FLOAT = Array[101, 105, 471, 3]
STOKU FLOAT = Array[101, 105, 471, 3]
STOKV FLOAT = Array[101, 105, 471, 3]

ATMOSPHERIC PARAMETER FROM SPECTRAL ANALYSIS

example path /archive/gris/20140426/level2/26apr14.000_maps.save

AMAS FLOAT = Array[105, 471, 3] ; amplitude asymmetry similar to Solanki & Stenflo 1984
ARAS FLOAT = Array[105, 471, 3] ; area asymmetry similar to Solanki & Stenflo 1984 (unlike ncp, area asymmetry does not depend on amplitude of Stok V)
BB_SPLIT DOUBLE = Array[105, 471, 3] ; magnetic field strength in according to Zeeman equation $B [G] = \frac{\Delta \lambda [A]}{\lambda_0^2 [A]} * 4.67E-13 * g_{eff}$
CP FLOAT = Array[2, 3] ; lambda_0 for wavelength calibration (position of zero crossing of average Stok V profile computed from umbral Stok V profiles with AMAS < 5%)
CP_ALL FLOAT = Array[105, 471, 3] ; position of zero crossing for all Stok V profiles similar to Solanki & Stenflo 1984 (position of red lobe - position of blue lobe)
DOP_BSC FLOAT = Array[105, 471, 3] ; Doppler velocities from bisector -> preliminary and will be updated soon
DOP_COG FLOAT = Array[105, 471, 3] ; Doppler velocities from barycenter of the line (strongly influenced by blends) -> preliminary and will be updated soon
DOP_CRCT FLOAT = Array[105, 3] ; correction curve for velocity gradient across FOV (just FYI) $mean[v_{dop} + abs\{min(v_{dop})\}]$ for all pixel along slit
DOP_GFIT FLOAT = Array[105, 471, 3] ; Doppler velocities from gaussian fit to lines -> preliminary and will be updated soon
DOP_LMIN FLOAT = Array[105, 471, 3] ; Doppler velocities from line core -> preliminary and will be updated soon
DOP_MAG FLOAT = Array[105, 471, 3] ; Doppler velocities from zero crossing of Stok V -> preliminary and will be updated soon
FRINGE FLOAT = Array[105, 471, 3] ; amplitude of fringes computed from RMS in continuum between -2000 mA and -1800 mA as well as 1800 mA and 2000 mA from line core
INT FLOAT = Array[105, 471] ; continuum map
MU FLOAT = Array[105, 471] ; map of cos(heliocentric angle) from cassda_gui_tip -> implemented but not up to data because depend on HMI data (saved as context data a.t.m.)
NCP FLOAT = Array[105, 471, 3] ; net circular polarization of lines with an equivalent width in units of [pm] similar to D. Mueller (Dipl. Thesis 2002)
PEN FLOAT = Array[105, 471] ; penumbral mask manually created by M. Franz
PLIN FLOAT = Array[105, 471, 3] ; total linear polarization according to B. Lites in pvpvcomp_sbsp.pro of Hinode reduction package
PMAX FLOAT = Array[105, 471, 3] ; maximum polarization degree according to C. Beck (PhD Thesis 2005) -> not yet implemented and will be updated soon
POL FLOAT = Array[105, 471, 3] ; magnetic field polarity from average of blue lobe of Stok V (-120 mA to -320 mA from line core)
PTOT FLOAT = Array[105, 471, 3] ; total polarization according to B. Lites pvpvcomp_sbsp.pro of Hinode reduction package