HINODE SOT Level-0 FITS Keywords - FG -

Ver. 20080122 (based on RF0_VER 1.41)

Keyword	Type	Sample	Unit / Option	Description
SIMPLE	Log	T	T, F	Indicates whether the FITS file is standard or not.
BITPIX	Int	16		Number of bits per pixel.
NAXIS	Int	2		Number of data array dimensions.
NAXIS1	Int	2048		Number of pixels (data points) in the first axis of the data array.
NAXIS2	Int	1024		Number of pixels (data points) in the second axis of the data array.
NAXIS3	Int	2		Number of pixels (data points) in the third axis of the data array.
EXTEND	Log	T	T, F	FITS extension indicator.
DATE	Str	2006-12-02T13:10:11.100	UTC	Date that a particular file was reformatted or created (YYYY-MM-DDThh:mm:ss.sss).
DATE_RF0	Str	2006-12-02T13:10:11.100	UTC	Indicates when the Level-0 reformatting was done (YYYY-MM-DDThh:mm:ss.sss).
TELESCOP	Str	HINODE		Name of the satellite.
MDP_CLK	Int	2133925449	1/512sec	TI (spacecraft) clock delivered by MDP at the exposure start.
FILEORIG	Str	2007_0904_063717.sci		Indicates which sci files were used at creation.
MDPCTREF	Int	2133923951	1/512sec	TI (spacecraft) clock delivered by MDP at the nearest CT reference.
CTREF	Int	2961279384	1/584sec	FPP CT clock at the nearest CT reference.
CTRATE	Flt	584.0	Hz	FPP CT clock speed.
TIMEERR	Flt	0.0	sec	Time error between TI clock and CT clock.
EXP0	Flt	0.051296	sec	Measured exposure duration
OBT_TIME	Int	2133924539	1/512sec	Start time of the exposure in TI spacecraft clock
OBT_END	Int	2133924565	1/512sec	End time of the exposures in TI spacecraft clock
DATE_OBS	Str	2007-08-27T05:59:45.785	UTC	The date and time at the start time of the expsosure (YYYY-MM-DDThh:mm:ss.sss).
TIME-OBS	Str	05:59:45.785	UTC	Start time of the exposure in UTC (hh:mm:ss.sss).
CTIME	Str	Mon Aug 27 05:59:45 2007	UTC	The date and time at the start time of the expsosure in the calendar format (WkD MMM DD hh:mm:ss YYYY).
DATE_END	Str	2007-08-27T05:59:45.83	UTC	End time of the exposure (YYYY-MM-DDThh:mm:ss.sss).
TIMESPAN	Flt	0.051296	sec	Time span to get the image
TIMESYS	Str	UTC		Indicates the time system of the data
INSTRUME	Str	SOT/WB		Name of the instrument used to acquire the data (SOT/WB, SOT/NB, SOT/SP,SOT/CT).
ORIGIN	Str	JAXA/ISAS, SIRIUS		Indicates where the reformatted file was created
DATA_LEV	Int	0	0,1,2	The level of the data
ORIG_RF0	Str	JAXA/ISAS, SIRIUS		Indicates where the Level-0 reformatting was done. Same as ORIGIN keyword for Level-0 FITS.
VER_RF0	Str	1.41		Indicates the version of the reformatting program used to create Level-0 data.
PROG_VER	Int	273		Version number of the program table in use.
SEQN_VER	Int	205		Version number of the sequence table in use
PARM_VER	Int	123		Version number of the parameter table in use
PROG_NO	Int	8	1-20	Program slot number.
SUBR_NO	Int	1	1-4	Subroutine slot number.
SEQN_NO	Int	84	1-100	Sequence slot numer.
MAIN_CNT	Int	238	0-255	Current repeat count of the main routine.
MAIN_RPT	Int	0	0-255	Repeat number of the main routine. 1-255 for repeat count, and 0 means infinite repeat
MAIN_POS	Int	1	1-8	Current position in the main routine.
SUBR_CNT	Int	1	1-255	Current repeat count of the subroutine.
SUBR_RPT	Int	1	1-255	Repeat number of the subroutine.
SUBR_POS	Int	1	1-8	Current position in the subroutine.
SEQN_CNT	Int	1	1-255	Current repeat count of the sequence.
SEQN_RPT	Int	1	1-255	Repeat number of the sequence.
SEQN_POS	Int	1	1-8	Current position in the sequence.
OBSTITLE	Str			Title of the observation
TARGET	Str			Description of the target region

SCI_OBJ	Str			A few sentences on the scientific objective of the observation
SCI_OBS	Str			A few sentences on the scientific objective of the observation
OBS_DEC	Str			A few sentences describing the properties of the observation
JOIN_SB	Str	ESX		Indicates the HINODE instruments involved in the observation (S: SOT, X: XRT, E: EIS).
OBS_NUM	Int	100		HINODE observation number
JOP_ID	Int	123		Joint observations between HINODE and other instruments will be sequentially numbered
NOAA_NUM	Int	11345		The NOAA Active Region number for AR observations
OBSERVER	Str		L F, M	Name of the Chief Observer
PLANNER	Str		L F, M	Name of the Chief Planner
TOHBANS	Str		L F, M	Names of the Real-Time Tohbans
DATATYPE	Str	SCI	SCI, ENG	Indicates whether data is science or engineering test related
FLFLG	Str	FLR	FLR, NON	Flare flag: indicates observations made during FLARE mode
SAA	Str	OUT	IN, OUT	Indicates whether the satellite is in the South Atlantic Anomoly at the time of observation
HLZ	Str	IN	IN, OUT	Indicates whether the satellite is in the High Latitude Zone of auroral precipitation at the time of observation
OBS_ID	Int	23		Numerical identifier that correlates to OBS_TYPE. There is many-to-one correlation to OBS_TYPE
GEN_ID	Int	1		Numerical identifier with one-to-one correspondence to OBS_TYPE
FRM_ID	Int	2		Numerical identifier of frame definition block
WAVEID	Int	12		Numerical identifier of observable wavelength
OBS_TYPE	Str	FG (simple)		A single Str code idenitifying the type of observation.
MACROID	Int	9436		Sequential number of the macro-command delivered by MDP.
XSCALE	Flt	0.10896	asec/pix	Pixel scale in the X-direction.
YSCALE	Flt	0.10896	asec/pix	Pixel scale in the Y-direction.
FGXOFF	Int	10	asec	FG X offset for ROI definition.
FGYOFF	Int	20	asec	FG Y offset for ROI definition.
FGCCDIX0	Int	0	pix	Index of the 1st pixel in the CCD X-direction.
FGCCDIX1	Int	4095	pix	Index of the last pixel in the CCD X-direction.
FGCCDIY0	Int	0	pix	Index of the 1st pixel in the CCD Y-direction.
FGCCDIY1	Int	2047	pix	Index of the last pixel in the CCD Y-direction.
CRPIX1	Flt	1024.5	pix	Coordinates (X) of the reference pixel in the data. The reference pixel is usually the center of the CCD.
CRPIX2	Flt	512.5	pix	Coordinates (Y) of the reference pixel in the data. The reference pixel is usually the center of the CCD.
SC_ATTX	Flt	-43.3359	asec	Heliocentric coordinate (X) of AOCS pointing.
SC_ATTY	Flt	-216.525	asec	Heliocentric coordinate (Y) of AOCS pointing.
CRVAL1	Flt	-43.3359	asec	Coordinates (X) of the reference pixel in heliocentric reference frame.
CRVAL2	Flt	-216.525	asec	Coordinates (Y) of the reference pixel in heliocentric reference frame.
CDELT1	Flt	0.10896	asec/pix	Pixel scale in the X-direction
CDELT2	Flt	0.10896	asec/pix	Pixel scale in the Y-direction
CUNIT1	Str	arcsec		Unit of CRVAL1
CUNIT2	Str	arcsec		Unit of CRVAL2
CTYPE1	Str	Solar-X		Label of the first dimension of the data
CTYPE2	Str	Solar-Y		Label of the second dimension of the data
SAT_ROT	Flt	0.12	deg	Difference between Solar North and the Y-axis of the satellite
INST_ROT	Flt	0.412	deg	Difference between the Y-axis of the satellite and the images
CROTA1	Flt	0.412043	deg	SAT_ROT + INST_ROT. Difference between Solar North and Y-axis of the image.
CROTA2	Flt	0.412043	deg	SAT_ROT + INST_ROT. Difference between Solar North and the X-axis of the image.
XCEN	Flt	-43.3359	asec	The heliocentric coordinate (X) at the center of the image
YCEN	Flt	-216.525	asec	The heliocentric coordinate (Y) at the center of the image

FOVX	Flt	223.15	asec	The width of the field-of-view in the X-coordinate
FOVY	Flt	111.575	asec	The width of the field-of-view in the Y-coordinate
TR_MODE	Str	TR1	TR1-TR4, FIX	AOCS tracking mode (TR1--TR4) or Fixed (FIX). The number after TR indicates the number of the tracking curve.
FGBINX	Int	1	1, 2	On-board s/w summing in the CCD X-direction
FGBINY	Int	1	1, 2	On-board s/w summing in the CCD Y-direction
EXPTIME	Flt	0.0512	sec	Exposure time requested by the command
WAVE	Str	G band 4305		Description of observable ion and wavelength
DARKFLAG	Int	1	0, 1	Flag to indicate the shutter is opend (0) or closed (1)
BITCOMP1	Int	6		Bit-compression parameter for unsigned data (0:none, 1:16U->12, 2:14U->12, 6:12U low)
IMGCOMP1	Int	7		Imaga-compression parameter for unsigned data (0: none, 3:12bit DPCM, 7:12bit JPEG)
QTABLE1	Int	2		Q-table number for unsigned data (0:98, 1:90, 2:75, 3:50, 4:95, 5:92, 6:85, 7:65)
BITCOMP2	Int	3		Bit-compression parameter for signed data (0:none, 3: 16S->12, 4:14.5S->12, 5:13S->12)
IMGCOMP2	Int	7		Imaga-compression parameter for signed data (0: none, 3:12bit DPCM, 7:12bit JPEG)
QTABLE2	Int	4		Q-table number for signed data (0:98, 1:90, 2:75, 3:50, 4:95, 5:92, 6:85, 7:65)
PCK_SN0	Int	18615462		Serial number of the first packet of the image.
PCK_SN1	Int	18615494		Serial number of the last packet of the image.
NUM_PCKS	Int	33		Number of image packets used to construct the FITS file.
FGMODE	Str	shuttered		String indicating the FG camera mode (shuttered or shutterless)
FGNINT	Int	1		Number indicating how many images are integrated
ROILOOP	Int	0	0, 1	Flag indicating ROI loop is used or not in the shutterless mode
NROILOOP	Int	0		Number of ROI loop in the shutterless mode
CTSERVO	Int	1	0, 1	CT servo on (1) or off (0)
CTMESTAT	Int	36864		CTM-E status bit field
CTMEX	Int	20421	0.0005 asec	CTM tip-tilt mirror X-tilt (CTM 2nd word).
CTMEY	Int	-704	0.0005 asec	CTM tip-tilt mirror Y-tilt (CTM 3rd word).
CTMODE	Int	33		Correlation tracker mode bit field.
T_SPCCD	Flt	-10	deg C	Temperature of the SP CCD at the camera head.
T_FGCCD	Flt	-10	deg C	Temperature of the FG CCD at the camera head.
T_CTCCD	Flt	-10	deg C	Temperature of the CT CCD at the camera head.
T_SPCEB	Flt	20	deg C	Temperature of the SP camera electronics box.
T_FGCEB	Flt	20	deg C	Temperature of the FG camera electronics box.
T_CTCEB	Flt	20	deg C	Temperature of the CT camera electronics box.
MASK	Int	22	steps	Position of NFI mask wheel
WBFW	Int	118	steps	Position of BFI filterwheel
WEDGE	Int	22	steps	Position of CT wedge filter
NBFW	Int	38	steps	Position of NFI filter wheel
TF1	Int	2	steps	Position of TF motor 1
TF2	Int	40	steps	Position of TF motor 2
TF3	Int	6	steps	Position of TF motor 3
TF4	Int	6	steps	Position of TF motor 4
TF5	Int	28	steps	Position of TF motor 5
TF6	Int	41	steps	Position of TF motor 6
TF7	Int	67	steps	Position of TF motor 7
TF8	Int	21	steps	Position of TF motor 8
SLITENC	Int	2048	steps	Encoder position of SP scan mechanism.
FOCUS	Int	2048	steps	Position of FPP focusing lens.
WBEXP	Int	53	msec	BFI last requested exposure time.
NBEXP	Int	99	msec	NFI last requested exposure time.
WAVEOFF	Int	350	mA	Offset from baseline wavelength of observable given in WAVE.
ROISTART	Int	0		Camera read-out parameter of ROI start.
ROISTOP	Int	1025		Camera read-out parameter of ROI stop.
DOPVUSED	Int	-1024	m/s	Doppler shift compensation applied to the FG data.

CAMGAIN	Int	2	0-3	Numerical ID of Camera gain.
CAMDACA	Int	8	0-15	Numerical ID of DAC offset A.
CAMDACB	Int	8	0-15	Numerical ID of DAC offset B.
CAMPSUM	Int	2	1, 2, 4	Cameras parallel summing (X-direction).
CAMSSUM	Int	2	1, 2, 4	Cameras serial summing (Y-direction).
CAMAMP	Int	0	0, 1	Numerical ID of camera amplifier.
CAMSCLK	Int	0	0, 1	Numerical ID of camera serial clock direction.
PMUDELAY	Int	128		Phase offset between the PMU signal and the signal sent to the camera.
BITCVER1	Int	45094		Version number of the bit compression table
DCHFVER1	Int	40961		Version number of the JPEG Huffman-DC table
ACHFVER1	Int	53249		Version number of the JPEG Huffman-AC table
QTABVER1	Int	57365		Version number of the Q table for JPEG comp
BITCVER2	Int	45094		Version number of the bit compression table
DCHFVER2	Int	40961		Version number of the JPEG Huffman-DC table
ACHFVER2	Int	53249		Version number of the JPEG Huffman-AC table
QTABVER2	Int	57365		Version number of the Q table for JPEG comp
BYTECNTI	Int	929560	bytes	Total number of bytes of the compressed unsigned data.
PIXCNTI	Int	2097152	pix	Total number of pixels of the compressed unsigned data.
BITSPPI	Flt	3.54599	bits/pix	Average bit/pixel of the unsigned data
BYTECNTQ	Int	68974	bytes	Total number of bytes of the compressed signed data
PIXCNTQ	Int	287232	pix	Total number of pixels of the compressed signed data
BITSPPQ	Flt	1.92107	bits/pix	Average bit/pixel of the signed data.
COMMENT	Str			General comment. Allowed throughout header.
END	(blank)			Marks the end of the FITS header

HINODE SOT Level-0 FITS Keywords - SP -

Ver. 20080122 (based on RF0_VER 1.41)

Keyword	Type	Sample	Unit / Option	Description
SIMPLE	Log	T	T, F	Indicates whether the FITS file is standard or not.
BITPIX	Int	16		Number of bits per pixel.
NAXIS	Int	2		Number of data array dimensions.
NAXIS1	Int	112		Number of pixels (data points) in the first axis of the data array.
NAXIS2	Int	384		Number of pixels (data points) in the second axis of the data array.
NAXIS3	Int	2		Number of pixels (data points) in the third axis of the data array.
NAXIS4	Int	4		Number of pixels (data points) in the fourth axis of the data array.
EXTEND	Log	T	T, F	FITS extension indicator.
DATE	Str	2006-12-02T13:10:11.100	UTC	Date that a particular file was reformatted or created (YYYY-MM-DDThh:mm:ss.sss).
DATE_RF0	Str	2006-12-02T13:10:11.100	UTC	Indicates when the Level-0 reformatting was done (YYYY-MM-DDThh:mm:ss.sss).
TELESCOP	Str	HINODE		Name of the satellite.
INSTRUME	Str	SOT/SP		Name of the instrument used to acquire the data (SOT/WB, SOT/NB, SOT/SP,SOT/CT).
MDP_CLK	Int	2133925449	1/512sec	TI (spacecraft) clock delivered by MDP at the exposure start.
ORIGIN	Str	JAXA/ISAS, SIRIUS		Indicates where the reformatted file was created
DATA_LEV	Int	0	0,1,2	The level of the data
ORIG_RF0	Str	JAXA/ISAS, SIRIUS		Indicates where the Level-0 reformatting was done. Same as ORIGIN keyword for Level-0 FITS.
VER_RF0	Str	1.41		Indicates the version of the reformatting program used to create Level-0 data.
PROG_VER	Int	273		Version number of the program table in use.
SEQN_VER	Int	205		Version number of the sequence table in use
PARM_VER	Int	123		Version number of the parameter table in use
PROG_NO	Int	8	1-20	Program slot number.
SUBR_NO	Int	1	1-4	Subroutine slot number.
SEQN_NO	Int	84	1-100	Sequence slot numer.
MAIN_CNT	Int	238	0-255	Current repeat count of the main routine.
MAIN_RPT	Int	0	0-255	Repeat number of the main routine. 1-255 for repeat count, and 0 means infinite repeat
MAIN_POS	Int	1	1-8	Current position in the main routine.
SUBR_CNT	Int	1	1-255	Current repeat count of the subroutine.
SUBR_RPT	Int	1	1-255	Repeat number of the subroutine.
SUBR_POS	Int	1	1-8	Current position in the subroutine.
SEQN_CNT	Int	1	1-255	Current repeat count of the sequence.
SEQN_RPT	Int	1	1-255	Repeat number of the sequence.
SEQN_POS	Int	1	1-8	Current position in the sequence.
OBSTITLE	Str			Title of the observation
TARGET	Str			Description of the target region
SCI_OBJ	Str			A few sentences on the scientific objective of the observation
SCI_OBS	Str			A few sentences on the scientific objective of the observation
OBS_DEC	Str			A few sentences describing the properties of the observation
JOIN_SB	Str	ESX		Indicates the HINODE instruments involved in the observation (S: SOT, X: XRT, E: EIS).
OBS_NUM	Int	100		HINODE observation number
JOP_ID	Int	123		Joint observations between HINODE and other instruments will be sequentially numbered
NOAA_NUM	Int	11345		The NOAA Active Region number for AR observations
OBSERVER	Str		L F, M	Name of the Chief Observer
PLANNER	Str		L F, M	Name of the Chief Planner
TOHBANS	Str		L F, M	Names of the Real-Time Tohbans
DATATYPE	Str	SCI	SCI, ENG	Indicates whether data is science or engineering test related

FLFLG	Str	FLR	FLR, NON	Flare flag: indicates observations made during FLARE mode
FILEORIG	Str	2007_0904_063717.sci		Indicates which sci files were used at creation.
MDPCTREF	Int	2133923951	1/512sec	TI (spacecraft) clock delivered by MDP at the nearest CT reference.
CTREF	Int	2961279384	1/584sec	FPP CT clock at the nearest CT reference.
CTRATE	Flt	584.0	Hz	FPP CT clock speed.
TIMEERR	Flt	0.0	sec	Time error between TI clock and CT clock.
OBT_TIME	Int	2133924539	1/512sec	Start time of the exposure in TI spacecraft clock
OBT_END	Int	2133924565	1/512sec	End time of the exposures in TI spacecraft clock
DATE_OBS	Str	2007-08-27T05:59:45.785	UTC	The date and time at the start time of the expsosure (YYYY-MM-DDThh:mm:ss.sss).
TIME-OBS	Str	05:59:45.785	UTC	Start time of the exposure in UTC (hh:mm:ss.sss).
CTIME	Str	Mon Aug 27 05:59:45 2007	UTC	The date and time at the start time of the expsosure in the calendar format (WkD MMM DD hh:mm:ss YYYY).
DATE_END	Str	2007-08-27T05:59:45.83	UTC	End time of the exposure (YYYY-MM-DDThh:mm:ss.sss).
SAA	Str	OUT	IN, OUT	Indicates whether the satellite is in the South Atlantic Anomoly at the time of observation
HLZ	Str	IN	IN, OUT	Indicates whether the satellite is in the High Latitude Zone of auroral precipitation at the time of observation
CRPIX1	Flt	56.5	pix	Horizontal position of the reference pixel in the data. The reference pixel is usually the center of the CCD.
CRPIX2	Flt	192.5	pix	Vertical position of the reference pixel in the data. The reference pixel is usually the center of the CCD.
CRVAL1	Flt	6302.0	Ang	The wavelength at the reference pixel specified by CRPIX1.
SC_ATTX	Flt	-43.3359	asec	Heliocentric coordinate (X) of AOCS pointing.
SC_ATTY	Flt	-216.525	asec	Heliocentric coordinate (Y) of AOCS pointing.
CRVAL2	Flt	-216.525	asec	Coordinates (Y) of the reference pixel in heliocentric reference frame.
CDELT1	Flt	-0.021549	Ang/pix	Pixel scale in the dispersion direction.
CDELT2	Flt	0.317	asec/pix	Pixel scale in the slit direction.
CUNIT1	Str	Angstrom		Unit of CRVAL1
CUNIT2	Str	arcsec		Unit of CRVAL2
CTYPE1	Str	Wavelength		Label of the first dimension of the data
CTYPE2	Str	Solar-Y		Label of the second dimension of the data
CTYPE1	Str	CCD side		Label of the third dimension of the data
CTYPE2	Str	Stokes component		Label of the fourth dimension of the data
SAT_ROT	Flt	-0.000128	deg	Difference between Solar North and the Y-axis of the satellite
INST_ROT	Flt	0.412	deg	Difference between the Y-axis of the satellite and the images
CROTA1	Flt	0.411871	deg	SAT_ROT + INST_ROT. Difference between Solar North and Y-axis of the image.
CROTA2	Flt	0.411871	deg	SAT_ROT + INST_ROT. Difference between Solar North and the X-axis of the image.
YSCALE	Flt	0.317000	asec/pix	Pixel scale in the Y-direction.
XSCALE	Flt	0.295200	asec/step	Step size of slit scanning.
FOVX	Flt	0.295200	asec	The width of the field-of-view in X(EW), which means the slit width.
FOVY	Flt	121.728	asec	The width of the field-of-view in the Y(NS).
TR_MODE	Str	TR1	TR1-TR4, FIX	AOCS tracking mode (TR1-TR4) or Fixed (FIX). The number after TR indicates the number of the tracking curve.
XCEN	Flt	-43.3359	asec	The heliocentric coordinate (X) at the slit position.
YCEN	Flt	-216.525	asec	The heliocentric coordinate (Y) at the center of the slit.
SPMAPCTR	Flt	0	steps	Center position of slit scan with respect to scan mechanism center.
SPCCDIX0	Int	128	pix	Index of the 1st pixel in the CCD X-direction.
SPCCDIX1	Int	895	pix	Index of the last pixel in the CCD X-direction.
SPCCDIY0	Int	56	pix	Index of the 1st pixel in the CCD Y-direction.
SPCCDIY1	Int	167	pix	Index of the last pixel in the CCD Y-direction.
MACROID	Int	55		Sequential number of the macro-command delivered by MDP.
PCK_SN0	Int	16088917		Serial number of the first packet of the image.
PCK_SN1	Int	16088925		Serial number of the last packet of the image.

NUM_PCKS	Int	9		Number of image packets used to construct the FITS file.
NSLITPOS	Int	1024	steps	Number of slit positions in an SP map.
SLITINDX	Int	513	steps	Index number of slit position in map. Range from 0 to NSLITPOS-1.
NUM_SIDE	Int	2	1, 2	Number of the CCD sides in use (1: only LHS, 2: both LHS and RHS).
WAVE	Str	6302A		Description of wavelength
SPNINT	Int	4	1-16	Number of intengration cycles. 1 cycle corresponds to 0.8sec integration (half rotation of PMU).
SP_EXTID	Int	10	0-15	SP Extract ID, determines ROI in spatial direction.
SCN_STEP	Int	1	steps	Scan steps, number of slit scan mechanism steps between positions at which data is collected.
SCN_SUM	Int	1	steps	Scan summing, number os slit positions to sum before sending data to MDP.
SCN_RPT	Int	1	0, 1	Repeat flag. Repeat map ad infinitum if set.
SPBSHFT	Int	1	0-3	Scaling (bit-shift) options (0:no scaling, 1:I down by a factor of 2, 2:I and V down, 3: I, Q, U, and V down).
BITCOMP1	Int	6		Bit-compression parameter for unsigned data (0:none, 1:16U->12, 2:14U->12, 6:12U low)
IMGCOMP1	Int	7		Imaga-compression parameter for unsigned data (0: none, 3:12bit DPCM, 7:12bit JPEG)
QTABLE1	Int	2		Q-table number for unsigned data (0:98, 1:90, 2:75, 3:50, 4:95, 5:92, 6:85, 7:65)
BITCOMP2	Int	3		Bit-compression parameter for signed data (0:none, 3: 16S->12, 4:14.5S->12, 5:13S->12)
IMGCOMP2	Int	7		Imaga-compression parameter for signed data (0: none, 3:12bit DPCM, 7:12bit JPEG)
QTABLE2	Int	4		Q-table number for signed data (0:98, 1:90, 2:75, 3:50, 4:95, 5:92, 6:85, 7:65)
ROISTART	Int	56		Camera read-out parameter of ROI start.
ROISTOP	Int	168		Camera read-out parameter of ROI stop.
DOPVUSED	Int	-1024	m/s	Doppler shift compensation applied to the last FG data.
CAMGAIN	Int	2	0-3	Numerical ID of Camera gain.
CAMDACA	Int	7	0-15	Numerical ID of DAC offset A.
CAMDACB	Int	7	0-15	Numerical ID of DAC offset B.
CAMPSUM	Int	1	1, 2, 4	Cameras parallel summing (X-direction).
CAMSSUM	Int	2	1, 2, 4	Cameras serial summing (Y-direction).
CAMAMP	Int	1	0, 1	Numerical ID of camera amplifier.
CAMSCLK	Int	1	0, 1	Numerical ID of camera serial clock direction.
SLITPOS	Int	464	steps	Position of slit with respect to slit scan mechanism center, software best estimate.
SLITENC	Int	2513	steps	Slit position encoder reading, center is 2048.
SPMAPINX	Int	570992		Cumulative number of SP maps completed.
CTSERVO	Int	1	0, 1	CT servo on (1) or off (0)
CTMESTAT	Int	36864		CTM-E status bit field
CTMEX	Int	20421	0.0005 asec	CTM tip-tilt mirror X-tilt (CTM 2nd word).
CTMEY	Int	-704	0.0005 asec	CTM tip-tilt mirror Y-tilt (CTM 3rd word).
CTMODE	Int	33		Correlation tracker mode bit field.
DOP_RCV	Int	254	m/s	Doppler shift compensation provided by MDP.
WEDGE	Int	22	steps	Position of CT wedge filter
FOCUS	Int	2048	steps	Position of FPP focusing lens.
T_SPCCD	Flt	-10	deg C	Temperature of the SP CCD at the camera head.
T_FGCCD	Flt	-10	deg C	Temperature of the FG CCD at the camera head.
T_CTCCD	Flt	-10	deg C	Temperature of the CT CCD at the camera head.
T_SPCEB	Flt	20	deg C	Temperature of the SP camera electronics box.
T_FGCEB	Flt	20	deg C	Temperature of the FG camera electronics box.
T_CTCEB	Flt	20	deg C	Temperature of the CT camera electronics box.
PMUDELAY	Int	128		Phase offset between the PMU signal and the signal sent to the camera.
TIMESYS	Str	UTC		Indicates the time system of the data.
EXPTIME	Flt	3.2	sec	Exposure time requested by the command.
BITCVER1	Int	45094		Version number of the bit compression table
DCHFVER1	Int	40961		Version number of the JPEG Huffman-DC table
ACHFVER1	Int	53249		Version number of the JPEG Huffman-AC table

QTABVER1	Int	57365		Version number of the Q table for JPEG comp
BITCVER2	Int	45094		Version number of the bit compression table
DCHFVER2	Int	40961		Version number of the JPEG Huffman-DC table
ACHFVER2	Int	53249		Version number of the JPEG Huffman-AC table
QTABVER2	Int	57365		Version number of the Q table for JPEG comp
BYTECNTI	Int	929560	bytes	Total number of bytes of the compressed unsigned data.
PIXCNTI	Int	2097152	pix	Total number of pixels of the compressed unsigned data.
BITSPPI	Flt	3.54599	bits/pix	Average bit/pixel of the unsigned data
BYTECNTQ	Int	68974	bytes	Total number of bytes of the compressed signed data
PIXCNTQ	Int	287232	pix	Total number of pixels of the compressed signed data
BITSPPQ	Flt	1.92107	bits/pix	Average bit/pixel of the signed data.
OBS_TYPE	Str	SP IQUV 4D array		A single Str code idenitifying the type of observation.
COMMENT	Str			General comment. Allowed throughout header.
END	(blank)			Marks the end of the FITS header