

Heliophysics Knowledge Base: AR Event Type

Parameters for Magnetic Features (MG) obtained with SMART (Originating Organization: TCD)

Source : Feature/Event Types definitions last updated: 2010-03-05

<p>KEY :</p> <p>SMID : (20031016_1423.mg.11)</p> <ul style="list-style-type: none"> · Date : YYYYMMDD_HHMM · Feature : MG · ID : ## · Possible appended letter if offspring (20031016_1423.mg.11a) <p>TYPE : (MBE)</p> <ul style="list-style-type: none"> · Polarity : M / U · Size : B / S · Emerging ? : E / D <p>CLASS :</p> <p>> 10D21 Mx</p> <ul style="list-style-type: none"> · AR = Active Region · PL = Plage <p>< 10D21 Mx</p> <ul style="list-style-type: none"> · UE = Unipolar Emerging · UD = Unipolar Decaying · ME = Multipolar Emerging · MD = Multipolar Decaying <p>req=required opt=optional, no=not provided</p>
--

HS	Parameter	Type	Required?	Description of attribute
H	Event_Type	S	req	'AR: ActiveRegion'
S	SMID	S	opt	Feature (SMART) static catalog name.
S	ID	S	req	Feature size order on disk (01, 02, 03 ...)
S	TYPE	S	req	Polarity/Size/Emergence (MBE, USD ...)
H	Event_CoordSys	S	req	'UTC-HPC-TOPO'
H	Event_CoordUnit	S	req	'arcsec,arcsec'
H	Event_EndTime	S	req	YYYY-MM-DDTHH:MM:SS
H	Event_StartTime	S	req	YYYY-MM-DDTHH:MM:SS

H	Event_Coord1	D	req	X bary-center (only area weighted)
H	Event_Coord2	D	req	Y bary-center (only area weighted)
H	Event_C1Error	D	req	X error
H	Event_C2Error	D	req	Y error
H	FRM_Contact	S	req	pohuigin@gmail.com
H	FRM_DateRun	S	req	YYYY-MM-DDTHH:MM:SS
H	FRM_HumanFlag	S	req	F
H	FRM_Identifier	S	req	phiggins
H	FRM_Institute	S	req	Trinity College Dublin
H	FRM_Name	S	req	SMART SolarMonitor Active Region Tracker
H	FRM_ParamSet	S	req	“calib=1, ... ”
H	FRM_URL	S	req	http://solarmonitor.org/smart_info.php
H	OBS_Observatory	S	req	SOHO
H	OBS_ChannelID	S	req	V band
H	OBS_Instrument	S	req	MDI
H	OBS_MeanWavel	D	req	6768
H	OBS_WaveUnit	S	req	angstroms
H	BoundingBox_C1LL	D	req	Coord1 of lower-left corner of bounding box
H	BoundingBox_C2LL	D	req	Coord2 of lower-left corner of bounding box
H	BoundingBox_C1UR	D	req	Coord1 of upper-right corner of bounding box
H	BoundingBox_C2UR	D	req	Coord2 of upper-right corner of bounding box
S	MEANVAL	D	req	Mean magnetic field value
S	VARIANCE	D	req	Standard deviation of magnetic field values
S	KURT	D	req	Kurtosis of magnetic field values
S	SKEWNESS	D	req	
H	Event_Npixels	D	req	Number of pixels included in feature
S	BFLUX	D	req	Total un-signed magnetic flux
S	BFLUXPOS	D	req	Positive magnetic flux
S	BFLUXNEG	D	req	Negative magnetic flux
S	BFLUXEMRG	D	req	Difference in BFLUX between consecutive magnetograms
S	BFLUXIMB	D	req	The Positive-Negative flux imbalance
H	Area_AtDiskCenter	D	req	LOS corrected area
H	Area_Unit	S	req	“Mm ² ”
S	BMIN	D	req	Largest negative magnetic field value
S	BMAX	D	req	Largest Positive magnetic field value
S	LNL	D	opt	Total length of polarity inversion line (PIL) segments

S	GRADMAX	D	opt	Maximum gradient along PIL
S	GRADMEAN	D	opt	Mean gradient along PIL
S	GRADVAR	D	opt	Variance of gradient along PIL
S	GRADKURT	D	opt	Kurtosis of gradient along PIL
S	GRADSKEW	D	opt	Skewness of gradient along PIL
S	RVAL	D	opt	Schrijver's R-value
S	WLSG	D	opt	Falconer's WLsg value