

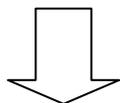
PR HDFファイルのデータ構造の変化 バージョン6 → バージョン7

2011年7月1日

JAXA/EORC

1. サイエンスデータ構造の変化

Data_V6 : SDS, V



・SDSdataとVdataの区別が無くなった。

Data_V7 : DATA

【特に影響が大きい変更】

☀️ 緯度、経度データ

geolocation[49][2] → Latitude[49], Longitude[49]

☀️ スキャン時刻データ

日積算秒: scan_time → scanTime_sed

日時情報: ScanTime 新規追加

V6用ツールの改修が必要。

V7における1B21, 1C21のサイエンスデータ項目の削除はない。ただし、PPS側による他センサとの共通化・利便性向上のため、日時情報の追加がある。また、一部に変数型宣言の変更、随所に変数名変更がある。

2A21, 2A23, 2A25 もその流れを受けつつ、それぞれ独自な変更が追加される。

2. 1B21 V6 と V7のデータ構造比較

V6_HDF4 (TSDIS)

CoreMetadata.0	5.5 Kb
ArchiveMetadata.0	7.8 Kb
DATA_GRANULE	
SwathData	
SwathStructure	482 bytes
scan_time	72.2 Kb
pr_scan_status	144.5 Kb
pr_navigation	794.6 Kb
powers	72.2 Kb
geolocation	3.5 Mb
systemNoise	884.9 Kb
sysNoiseWarnFlag	442.4 Kb
minEchoFlag	442.4 Kb
binStormHeight	1.7 Mb
binEllipsoid	884.9 Kb
binClutterFreeBottom	1.7 Mb
binDIDHmean	884.9 Kb
binDIDHtop	1.7 Mb
binDIDHbottom	1.7 Mb
scLocalZenith	1.7 Mb
scRange	1.7 Mb
osBinStart	1.0 Mb
landOceanFlag	884.9 Kb
surfWarnFlag	884.9 Kb
binSurfPeak	884.9 Kb
normalSample	121.0 Mb
osSurf	2.6 Mb
osRain	5.4 Mb
PR_CAL_COEF	72 bytes
RAY_HEADER	2.9 Kb



V7_HDF4 (PPSTK2009)

FileHeader	393 bytes
InputRecord	101 bytes
NavigationRecord	97 bytes
FileInfo	258 bytes
JAXAInfo	488 bytes
SwathHeader	169 bytes
pr_cal_coef	
ray_header	
Swath	
SwathHeader	169 bytes
ScanTime	←New!
scanStatus	
navigation	
powers	
scanTime_sec	72.2 Kb
Latitude	←New! 1.7 Mb
Longitude	1.7 Mb
systemNoise	884.9 Kb
sysNoiseWarnFlag	442.4 Kb
minEchoFlag	442.4 Kb
binStormHeight	1.7 Mb
binEllipsoid	884.9 Kb
binClutterFreeBottom	1.7 Mb
binDIDHmean	884.9 Kb
binDIDHtop	1.7 Mb
binDIDHbottom	1.7 Mb
scLocalZenith	1.7 Mb
scRange	1.7 Mb
osBinStart	1.0 Mb
landOceanFlag	884.9 Kb
surfWarnFlag	884.9 Kb
binSurfPeak	884.9 Kb
normalSample	121.0 Mb
osSurf	2.6 Mb
osRain	5.4 Mb

3. 1B21 V7 データ構造 詳細情報

pr_cal_coef, ray_header

[-] V pr_cal_coef	
[-] transCoef	4 bytes
[-] receiptCoef	4 bytes
[-] fcifIOchar	64 bytes
[-] V ray_header	
[-] rayStart	98 bytes
[-] raySize	98 bytes
[-] angle	196 bytes
[-] startBinDist	196 bytes
[-] rainThres1	196 bytes
[-] rainThres2	196 bytes
[-] transAntenna	196 bytes
[-] recvAntenna	196 bytes
[-] onewayAlongTrack	196 bytes
[-] onewayCrossTrack	196 bytes
[-] eqvWavelength	196 bytes
[-] radarConst	196 bytes
[-] prIntrDelay	196 bytes
[-] rangeBinSize	196 bytes
[-] logAveOffset	196 bytes
[-] mainlobeEdge	49 bytes
[-] sidelobeRange	147 bytes

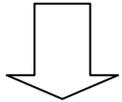
ScanTime, scanStatus, navigation, powers

[-] V ScanTime	
[-] Year	18.1 Kb
[-] Month	9.0 Kb
[-] DayOfMonth	9.0 Kb
[-] Hour	9.0 Kb
[-] Minute	9.0 Kb
[-] Second	9.0 Kb
[-] MilliSecond	18.1 Kb
[-] DayOfYear	18.1 Kb
[-] V scanStatus	
[-] missing	9.0 Kb
[-] validity	9.0 Kb
[-] qac	9.0 Kb
[-] geoQuality	9.0 Kb
[-] dataQuality	9.0 Kb
[-] SCorientation	18.1 Kb
[-] acsMode	9.0 Kb
[-] yawUpdateS	9.0 Kb
[-] prMode	9.0 Kb
[-] prStatus1	9.0 Kb
[-] prStatus2	9.0 Kb
[-] FractionalGranuleNumber	72.2 Kb
[-] V navigation	
[-] scPosX	36.1 Kb
[-] scPosY	36.1 Kb
[-] scPosZ	36.1 Kb
[-] scVelX	36.1 Kb
[-] scVelY	36.1 Kb
[-] scVelZ	36.1 Kb
[-] scLat	36.1 Kb
[-] scLon	36.1 Kb
[-] scAlt	36.1 Kb
[-] scAttRoll	36.1 Kb
[-] scAttPitch	36.1 Kb
[-] scAttYaw	36.1 Kb
[-] SensorOrientationMatrix	325.1 Kb
[-] greenHour Ang	36.1 Kb
[-] V powers	
[-] radarTransPower	18.1 Kb
[-] transPulseWidth	36.1 Kb

V6まで、Vdataに分類されていたデータ群も、V7からは、通常のデータ群として扱われるように変更された。

4. メタデータ構造の変化

Meta_V6 : ArchiveMetadata.0, CoreMetadata.0



- ・分類 : 2グループ→6グループ
- ・項目数 : 他センサとの共通化、重要項目に絞り込み

Meta_V7 : FileHeader, InputRecord, NavigationRecord,
FileInfo, JAXAInfo, SwathHeader

<Meta_V7の詳細情報>

【FileHeader】

AlgorithmID=1B21;
AlgorithmVersion=6.34;
FileName=1B21.HDF;
GenerationDateTime=2009-03-25T13:17:56.000Z;
StartGranuleDateTime=2008-12-10T11:15:23.053Z;
StopGranuleDateTime=2008-12-10T12:47:46.286Z;
GranuleNumber=63070;
NumberOfSwaths=1;
NumberOfGrids=0;
GranuleStart=SOUTHERNMOST_LATITUDE;
TimeInterval=ORBIT;
ProcessingSystem=;
ProductVersion=;
MissingData=0;

【InputRecord】

InputFileNames=1A21.20081210.63070.DAT;
InputAlgorithmVersions=1.00;
InputGenerationDateTimes=2009-03-25T12:45:13.000Z;

【NavigationRecord】

LongitudeOfMaximumLatitude=-23.441624;
SolarBetaAngleAtBeginningOfGranule=-53.874912;
SolarBetaAngleAtEndOfGranule=-53.856133;

【FileInfo】

DataFormatVersion=a;
TKCodeBuildVersion=1;
MetadataVersion=a;
FormatPackage=NCSA HDF Version 4.2 Release 1, February 17, 2005;
BlueprintFilename=TRMM.V6.1B21.blueprint.xml;
BlueprintVersion=BV_2;
TKIOVersion=1.0;
MetadataStyle=PVL;
EndianType=LITTLE_ENDIAN;

【SwathHeader】

NumberScansInSet=1;
MaximumNumberScansTotal=10000;
NumberScansBeforeGranule=0;
NumberScansGranule=9248;
NumberScansAfterGranule=0;
NumberPixels=49;
ScanType=CROSSTRACK;

【JAXAInfo】

CalibrationCoefficientVersion=1;
GranuleFirstScanUTCDate=2008/12/10;
GranuleFirstScanUTCTime=11:15:23;
GranuleFirstScanUTCMilliseconds=141;
GranuleLastScanUTCDate=2008/12/10;
GranuleLastScanUTCTime=12:47:46;
GranuleLastScanUTCMilliseconds=172;
SoftwareVersion=3;
DatabaseVersion=5;
TotalQualityCode=G;
LongitudeOnEquator=-107.553055;
UTCDateOnEquator=2008/12/10;
UTCTimeOnEquator=11:38:29;
UTCMillisecondsOnEquator=440;
CenterScanUTCDate=2008/12/10;
CenterScanUTCTime=12:01:34;
CenterScanUTCMilliseconds=356;
FirstScanLat=-35.112572;
FirstScanLon=168.374023;
LastScanLat=-35.113056;
LastScanLon=144.775162;
NumberOfRainScans=1896;