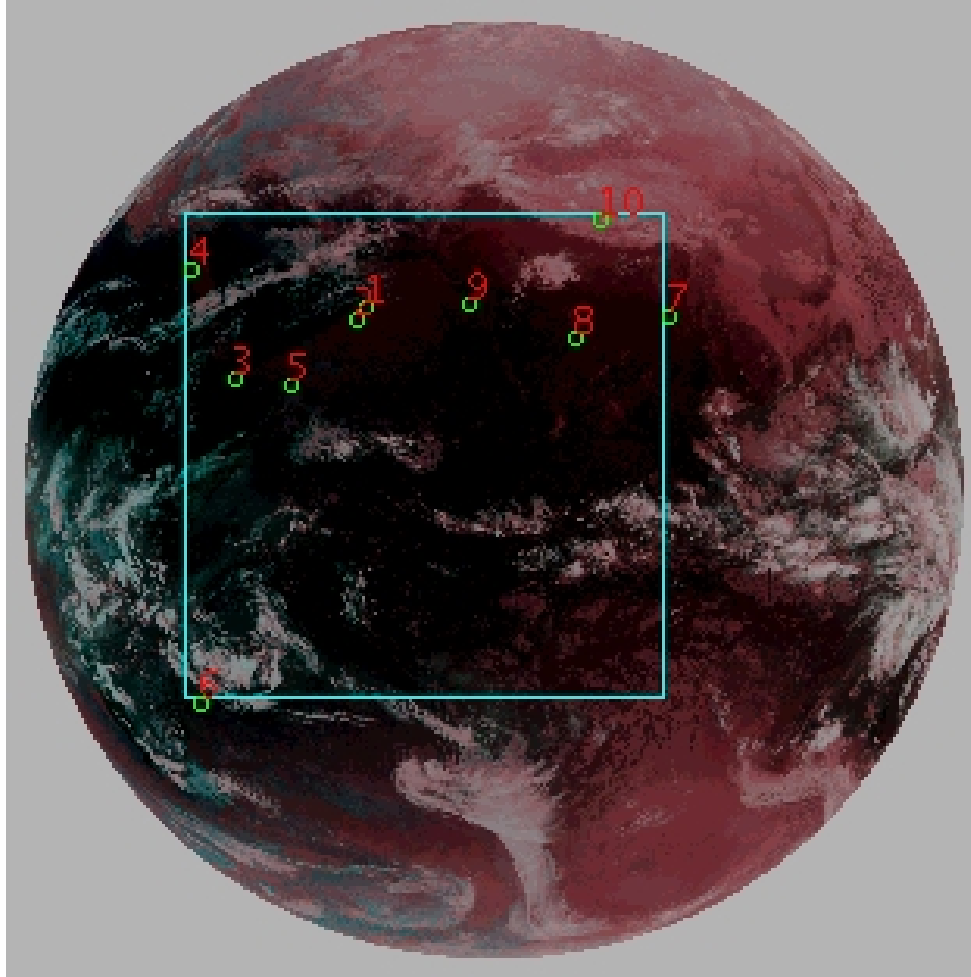


DQE Report: GDQE - Location parameters for INSAT-3DR-IMG STANDARD(FULL DISK) Product

Satellite INSAT-3DR **No Of Bands** 6 **Product Type** STANDARD
Sensor IMG **LvlOfProcess** L1B **Selected Band** 2-TIR1
DOP/Time 11-02-17/24:15 **Station ID** BES **Field View(deg)** 17.99
Res(Y,X) [Km] (4.0,4.0) **Res(Y,X) [uRad]** (112.0,112.0)

(81.042N,-7.157W)

(81.042N,155.157E)



(-81.042S,-7.157W)

(-81.042S,155.157E)

GCP Distribution overview for 3RIMG11FEB20171215L1BSTD

Image Width: 2805 **Image Height:** 2816 **No Of GCPs:** 10

GCP Coverage(%) 49.55 **(N-S)** 49.15 **(E-W)**

Location Error(E)

Legend — 0Km < E <= 50Km — 50Km < E <= 100Km — E >100Km

Location Error (Km)

| | Mean | Direction | Stddev | RMS |
|--------|---------|-----------|--------|--------|
| Along | 7.645 | N | 3.627 | 8.461 |
| Across | -10.285 | W | 7.705 | 12.851 |

Scale (Km)

| | Pixel Size | Stddev | %variation |
|---------|------------|--------|------------|
| Average | 4.516 | 0.429 | 12.911 |
| Along | 4.967 | 2.102 | 24.168 |
| Across | 4.416 | 0.442 | 10.407 |

Internal Distortion (in Pixels)

| | PeakToPeak | Mean | Stddev | RMS |
|--------|------------|-------|--------|-------|
| Along | 2.152 | 0.590 | 0.70 | 0.918 |
| Across | 5.562 | 1.229 | 1.64 | 2.047 |

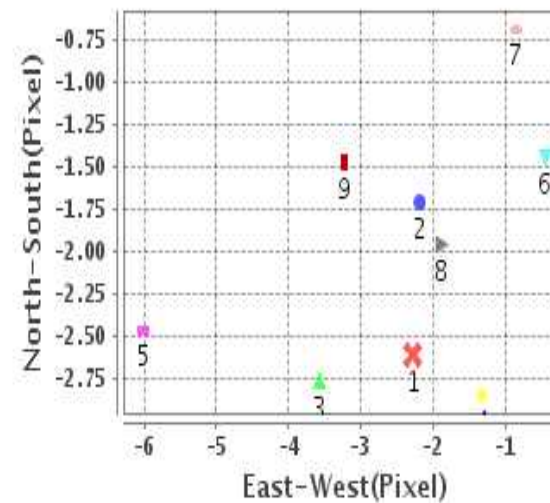
Attitude Residuals (Deg)

| Pitch | Roll | Yaw |
|----------|----------|----------|
| -0.01510 | -0.00877 | -0.07591 |

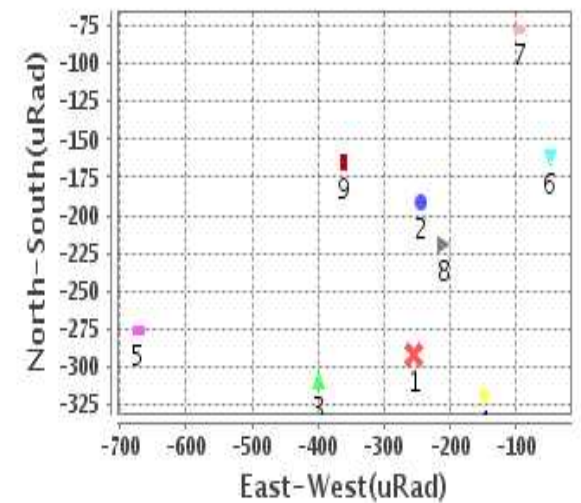
Reference Used

| Sensor | Resolution | Projection |
|--------|------------|------------|
| ETM | 500.00 | GGP |

Location Error For GCPs(Pixel)



Location Error For GCPs(uRad)



Detailed Product Information

Ancillary Info

| | | | |
|-------------------|---------------|---------------------------|------------|
| Satellite | INSAT-3DR | Generation Date | 11-02-17 |
| Sensor | IMG | DQE Date | 15-02-2017 |
| PassType | NONE | Aquisition Date | 11-02-17 |
| Imaging Mode | FULL_FRAME | Aquisition Time(GMT) | 24:15 |
| Sat Altitude(m) | 3.6E7 | Nominal Altitude(Km) | 3.6E7 |
| Station | BES | Predicted Altitude(Km) | 0.0 |
| Sat Location(deg) | 0.0 E | Nominal Center Lat(deg) | 0.0 |
| Format | hdf5-1.8.8 | Nominal Center Lon(deg) | 74.0 |
| LvlOfProcessing | STANDARD(FULL | Predicted Center Lat(deg) | 0.0 |
| DP JobId | 3RIMG_11FEB20 | Predicted Center Lon(deg) | 0.0 |
| ProductCode | NONE | | |
| Field View(deg) | 17.99 | | |

Projection Parameters

| | |
|-------------------------------|----------|
| Projection | None |
| Ellipsoid | WGS_84 |
| Datum | WGS_84 |
| Zone | NotAvail |
| Semi_Major_Axis(Km) | 6378.14 |
| Semi_Minor_Axis(Km) | 6356.75 |
| Standard_Parallel1(deg) | -999.99 |
| Standard_Parallel2(deg) | -999.99 |
| Projection_Origin_Lon(deg) | -999.99 |
| Projection_Origin_Lat(deg) | -999.99 |
| Projection_False_Easting(Km) | -999.99 |
| Projection_False_Northing(Km) | -999.99 |

Scene Center Desc

| | |
|-------------------|---------|
| Centre Lat(deg) | 0.0 |
| Center Lon(deg) | 74.0 |
| Centre Roll(deg) | -999.0 |
| Centre Pitch(deg) | -999.0 |
| Center Yaw(deg) | -999.0 |
| SunElevation(deg) | -999.99 |
| SunAzimuth(deg) | -999.99 |
| SatElevation(deg) | -999.99 |
| SatAzimuth(deg) | -999.99 |

Scene Corner Desc

| | |
|-------------|---------|
| NW_Lat(deg) | 81.042 |
| NW_Lon(deg) | -7.157 |
| SW_Lat(deg) | -81.042 |
| SW_Lon(deg) | -7.157 |
| NE_Lat(deg) | 81.042 |
| NE_Lon(deg) | 155.157 |
| SE_Lat(deg) | -81.042 |
| SE_Lon(deg) | 155.157 |

Band Wise Details

| | Res_AL(Km) | Res_AX(Km) | Image Height | Image Width |
|------|------------|------------|--------------|-------------|
| MIR | 4.0 | 4.0 | 2816 | 2805 |
| SWIR | 1.0 | 1.0 | 11264 | 11220 |
| TIR1 | 4.0 | 4.0 | 2816 | 2805 |
| TIR2 | 4.0 | 4.0 | 2816 | 2805 |
| VIS | 1.0 | 1.0 | 11264 | 11220 |
| WV | 8.0 | 8.0 | 1408 | 1402 |

GDQE Computation Base

| | | | | | | | |
|------------|----------------|-------------------------------|--------|------------------------|------------|---------------------|-----------|
| Projection | MER | Wildpoint Rejection Threshold | 2.60 | SemiMajorAxis(m) | 6378137.00 | Mode Of Computation | grid |
| Ellipsoid | WGS_84 | | -sigma | SemiMinorAxis(m) | 6356752.31 | Used Reference Type | REFINSREF |
| Datum | WGS_84 | Unit | meters | Standardparallel1(deg) | 17.0 | | |
| Zone | Not Applicable | | | Standardparallel2(deg) | 17.0 | | |

* -999.99 : Not Applicable/Not Available

References

JobId : 3RIMG11FEB20171215L1BSTD

(-999.99 - Not Available/Not Computed)

| Ref.No | Source | File Name | Resolution (m) | Projection |
|--------|--------|-----------------|------------------|------------|
| 1 | ETM | world_Band1.img | 500.0 | GGP |

Location Accuracy

GCP Distribution Statistics

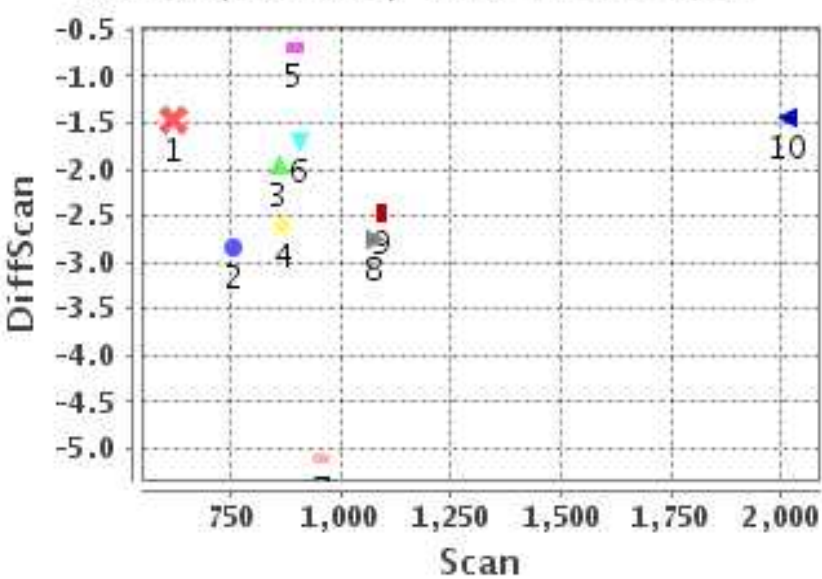
Image Width (pixels) : 2805 Image Height (pixels) : 2816 No of GCPs : 10

| | Mean | StdDev | Min | Max | Coverage(in %) |
|-----------------|--------|--------|-------|---------|----------------|
| GCP Scan | 1003.1 | 361.2 | 617.8 | 2013.00 | 49.55 (N-S) |
| GCP Pix | 1104.7 | 477.4 | 513.2 | 1892.00 | 49.15 (E-W) |

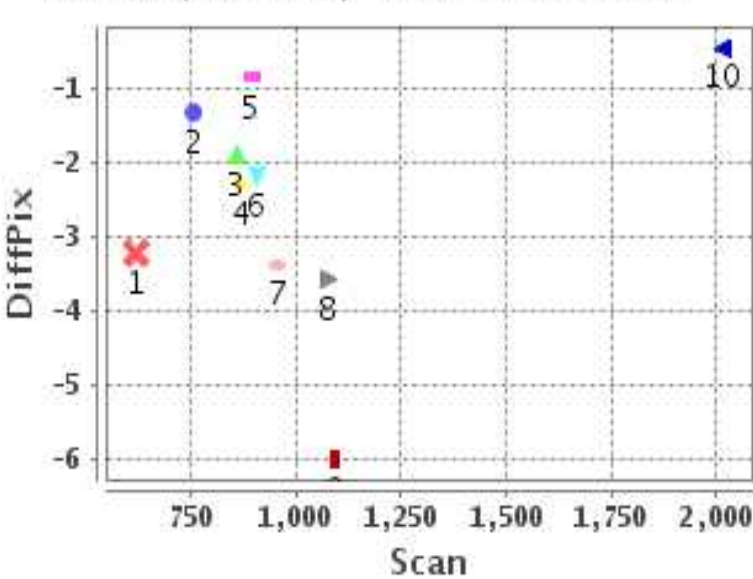
Identified Control Point details : (Differences are Reference - Product)

| No | Scan | Pix | DiffScan (line) | DiffPix (pixel) | DifLat (Km) | Dir | DifLon (Km) | Dir | Status |
|----|--------|--------|-----------------|-----------------|-------------|-----|-------------|-----|----------|
| 1 | 867.5 | 1022.5 | -2.6 | -2.28 | 9.522 | N | 9.230 | W | Accepted |
| 2 | 904.5 | 990.8 | -1.7 | -2.18 | 5.415 | N | 6.715 | W | Accepted |
| 3 | 1074.5 | 639.2 | -2.8 | -3.56 | 10.636 | N | 18.571 | W | Accepted |
| 4 | 756.8 | 513.2 | -2.8 | -1.32 | 12.328 | N | 12.466 | W | Accepted |
| 5 | 1089.0 | 805.8 | -2.5 | -6.00 | 10.333 | N | 24.894 | W | Accepted |
| 6 | 2013.0 | 541.5 | -1.4 | -0.44 | 7.107 | N | 3.030 | E | Accepted |
| 7 | 894.5 | 1892.0 | -0.7 | -0.85 | 0.381 | N | 3.422 | W | Accepted |
| 8 | 955.8 | 1622.5 | -5.1 | -3.38 | 18.201 | N | 11.195 | W | Rejected |
| 9 | 858.0 | 1322.0 | -2.0 | -1.88 | 9.395 | N | 8.000 | W | Accepted |
| 10 | 617.8 | 1697.5 | -1.5 | -3.22 | 3.684 | N | 12.293 | W | Accepted |

Error(Pixels) Vs. GCPScan



Error(Pixels) Vs. GCPScan



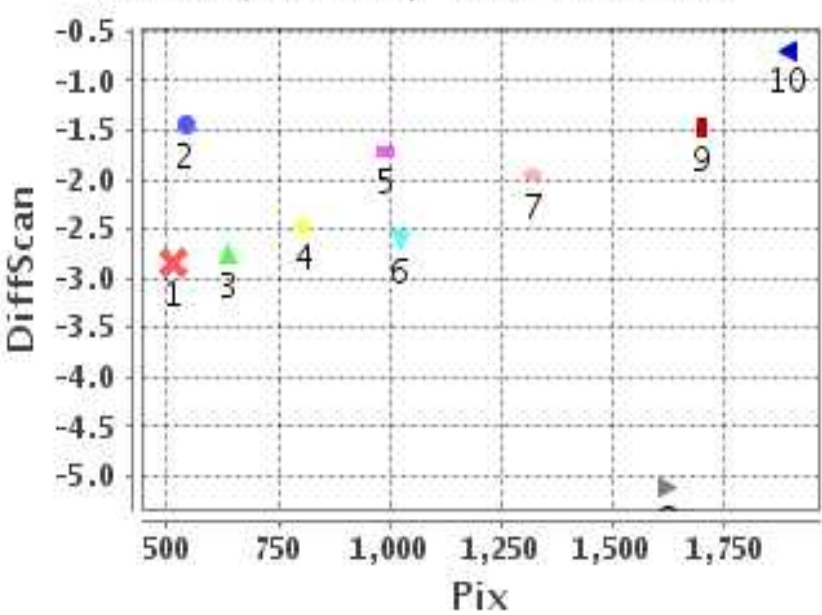
Number Of Points

| | |
|-------|---|
| North | 9 |
| South | 0 |
| East | 1 |
| West | 8 |

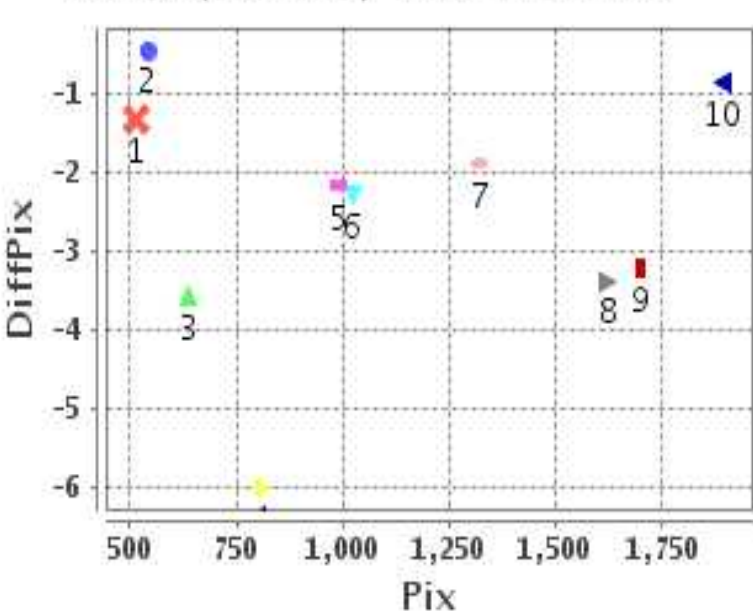
Radial Error (Km)

| | |
|------|--------|
| Mean | 13.791 |
| Min | 3.444 |
| Max | 26.953 |
| CE90 | 21.401 |

Error(Pixels) Vs. GCPPix



Error(Pixels) Vs. GCPPix



Location Accuracy

| | Mean | StdDev | RMS | Dir | * MinRMS | * MaxRMS |
|---------------|---------|--------|--------|-----|----------|----------|
| Along(Km) | 7.645 | 3.627 | 8.461 | N | 7.845 | 8.974 |
| Across (Km) | -10.285 | 7.705 | 12.851 | W | 10.408 | 13.588 |

Block-Wise Geo location Error Statistics

Location Accuracy,Scale,ID

| | | | |
|-----------------------------------|---------|---------|--|
| Scan Range-0-937; Pix Range-0-934 | | | |
| Number of GCPs | 1 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 12.33 | N | |
| Across(Mean,Dir) | -12.46 | W | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | -999.99 | -999.9 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -999.99 | -999.99 | |
| Across(Mean,Stddev) | -999.99 | -999.99 | |

| | | | |
|--------------------------------------|-------|------|--|
| Scan Range-0-937; Pix Range-934-1869 | | | |
| Number of GCPs | 4 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 7.005 | N | |
| Across(Mean,Dir) | -9.06 | W | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | 4.38 | 9.46 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | 0.62 | 0.38 | |
| Across(Mean,Stddev) | 0.28 | 0.56 | |

| | | | |
|---------------------------------------|---------|---------|--|
| Scan Range-0-937; Pix Range-1869-2805 | | | |
| Number of GCPs | 1 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 0.38 | N | |
| Across(Mean,Dir) | -3.42 | W | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | -999.99 | -999.9 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -999.99 | -999.99 | |
| Across(Mean,Stddev) | -999.99 | -999.99 | |

| | | | |
|--------------------------------------|--------|-------|--|
| Scan Range-937-1876; Pix Range-0-934 | | | |
| Number of GCPs | 2 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 10.485 | N | |
| Across(Mean,Dir) | -21.74 | W | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | 4.71 | 17.81 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -0.30 | 0.00 | |
| Across(Mean,Stddev) | 2.44 | 0.00 | |

| | | | |
|---|---------|----------|--|
| Scan Range-937-1876; Pix Range-934-1869 | | | |
| Number of GCPs | -999 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | -999.99 | NotAvail | |
| Across(Mean,Dir) | -999.99 | NotAvail | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | -999.99 | -999.9 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -999.99 | -999.99 | |
| Across(Mean,Stddev) | -999.99 | -999.99 | |

| | | | |
|--|---------|----------|--|
| Scan Range-937-1876; Pix Range-1869-2805 | | | |
| Number of GCPs | -999 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | -999.99 | NotAvail | |
| Across(Mean,Dir) | -999.99 | NotAvail | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | -999.99 | -999.9 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -999.99 | -999.99 | |
| Across(Mean,Stddev) | -999.99 | -999.99 | |

| | | | |
|---------------------------------------|---------|---------|--|
| Scan Range-1876-2816; Pix Range-0-934 | | | |
| Number of GCPs | 1 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | 7.11 | N | |
| Across(Mean,Dir) | 3.03 | E | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | -999.99 | -999.9 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -999.99 | -999.99 | |
| Across(Mean,Stddev) | -999.99 | -999.99 | |

| | | | |
|--|---------|----------|--|
| Scan Range-1876-2816; Pix Range-937-1869 | | | |
| Number of GCPs | -999 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | -999.99 | NotAvail | |
| Across(Mean,Dir) | -999.99 | NotAvail | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | -999.99 | -999.9 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -999.99 | -999.99 | |
| Across(Mean,Stddev) | -999.99 | -999.99 | |

| | | | |
|---|---------|----------|--|
| Scan Range-1876-2816; Pix Range-1869-2805 | | | |
| Number of GCPs | -999 | | |
| Location Error(Km) | | | |
| Along(Mean,Dir) | -999.99 | NotAvail | |
| Across(Mean,Dir) | -999.99 | NotAvail | |
| Scale(Km) | | | |
| Average Scale (Mean,%Variation) | -999.99 | -999.9 | |
| Internal Distortion(Pixel) | | | |
| Along(Mean,Stddev) | -999.99 | -999.99 | |
| Across(Mean,Stddev) | -999.99 | -999.99 | |

*-999 : no gcp available
* -999.99 : values are not computed