

PR Surface Rain 3A-26 Planetary Grid [L3A_26_GRID]

The following parameters are used in describing the formats:

- nlat: the number of 5° grid intervals of latitude from 40° N to 40° S (16).
- nlon: the number of 5° grid intervals of longitude from 180°W to 180°E (72).
- nh3: the number of fixed heights above the earth ellipsoid, at 2, 4, and 6 km plus one for path-average (4).
- ncat3: the number of categories for probability distribution functions (25).

Rain rate thresholds (mm/hr) are:

12., 14., 16., 18., 20., 22., 24., 26., 28., 30., 32., 34., 36., 38., 40., 42., 44., 46., 48., 50., 52., 54., 56., 58., 60.

- nthrsh: the number of thresholds used for probability distribution functions (6).

Q-thresholds for Zero order:

0.1, 0.2, 0.3, 0.5, 0.75, 50.

Q-thresholds for HB:

0.1, 0.2, 0.3, 0.5, 0.75, 0.9999

pia-thresholds for SRT:

1.5, 1., 0.8, 0.6, 0.4, 0.1

Total Counts (SDS, array size nlat x nlon, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Total Counts	ttlCount(16,72)	4-byte integer	This is the total number of counts (measurements) per month at each 5° x 5°box. Ranges are 0 to 2,147,483,647.

Rain Counts (SDS, array size nlat x nlon x nh3, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Rain Counts	rainCount(16,72,4)	4-byte integer	Total number of rain counts per month at each 5° x 5°box. This is computed at 2 km, 4 km, 6 km, and for the path-average. Ranges are 0 to 2,147,483,647.

Zero Order pDf (SDS, array size nlat x nlon x ncat3 x nh3 x nthrsh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
Zero Order pDf	zeroOrderpDf(16,72,25,4,6)	4-byte integer	Probability distribution function (cumulative) in counts of the zeroth order rain rate estimate at each 5° x 5°box. The pDf is computed at 2 km, 4 km, , and for the path average. Ranges are 0 to 2,147,483,647.

HB pDf (SDS, array size nlat x nlon x ncat3 x nh3 x nthrsh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
HB pDf	hbpDf(16,72,25,4,6)	4-byte integer	Probability distribution function (cumulative) in counts of the Hirschfeld-Bordan (HB) rain rate estimate at each 5° x 5°box. The pDf is computed at 2 km, 4 km, 6 km, and for the path average. Ranges are 0 to 2,147,483,647.

pDf2A25 (SDS, array size nlat x nlon x ncat3 x nh3 x nthrsh, 4-byte integer):

Name	Name in the TOOLKIT	Format	Description
pDf2A25	pDf2A25(16,72,25,4,6)	4-byte integer	Probability distribution function (cumulative) in counts of the Surface Reference Technique (SRT) rain rate estimate at each 5° x 5° box. The pDf is computed at 2 km, 4 km, 6 km, and for the path average. Ranges are 0 to 2,147,483,647.

Zero Order Fit (SDS array size nlat x nlon x nh3 x 3 x nthrsh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Zero Order Fit	zeroOrderFit(16,72,4,3,6)	4-byte float	The mean, variance and probability of rain parameters for the log-normal model obtained from the zeroth order pDf. Fitting parameters are given at 2 km, 4 km, 6 km, and for the path average. In addition, 5 thresholds are used. Ranges are TBD .

HB Fit (SDS array size nlat x nlon x nh3 x 3 x nthrsh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
HB Fit	hbFit(16,72,4,3,6)	4-byte float	The 3 fitting parameters for the log-normal model obtained from the HB pDf. Fitting parameters are given at 2 km, 4 km, 6 km, and for the path average. In addition, 5 thresholds are used. Ranges are TBD .

fit2A25 (SDS array size nlat x nlon x nh3 x 3 x nthrsh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
fit2A25	fit2A25(16,72,4,3,6)	4-byte float	The 3 fitting parameters for the log-normal model obtained from the SRT pDf. Fitting parameters are given at 2 km, 4 km, 6 km, and for the path average and 5 thresholds. Ranges are TBD .

Reliability 0th Order Fit (SDS array size nlat x nlon x nh3 x nthrsh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Reliability 0th Order Fit	reliabOrderFit(16,72,4,6)	4-byte float	Reliability parameter for the 0th order fit. Units and ranges are TBD .

Reliability HB Fit (SDS array size nlat x nlon x nh3 x nthrsh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Reliability HB Fit	reliabHBfit(16,72,4,6)	4-byte float	Reliability parameter for the HB fit. Units and ranges are TBD .

Reliability 2A25 Fit (SDS array size nlat x nlon x nh3 x nthrsh, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
Reliability 2A25 Fit	reliab2A25fit(16,72,4,6)	4-byte float	Reliability parameter for the SRT fit. Units and ranges are TBD .

rainMeanTH (SDS, array size nlat x nlon x nh3, 4-byte float):

Name	Name in the TOOLKIT	Format	Description
rainMeanTH	rainMeanTH (16,72,4)	4-byte float	The mean monthly unconditioned rain rate (mm/h) as determined from the threshold method (in particular, it is determined from the fitting parameters for the '0th-order method' using a single 'Q' threshold for each height level). Range is 0.0 to 3000.0 mm/h.