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Skyrad.pack\_V5.0/parafiles: - 4/8 -

- Examples for observation conditions files -

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1. History

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2006.04.20 Renewal Version 4.2 is fixed by M.Yamano

2024.01.17 Version 5.0 is fixed by M.Hashimoto

2. List of contents

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In the directory parafiles/ there are the following three example files

for observation conditioins and this document 'ReadMe\_para.doc'.

. METEO.DAT.default: meteorological conditions

. ins.para.example : information on instrument

. obs.para.example : information on observation

3. Explanation

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3-1. 'METEO.DAT'(meteorological conditions) ... METEO.DAT.default

'METEO.DAT.default' is an example for 'METEO.DAT' file, while it

is worldwide defaults for the atmospheric pressure and the ozone

amount. Any file name is available for 'METEO.DAT' file.

The contents of 'METEO.DAT' file are as follows.

- meteorological data(pressure & ozone) -

"worldwide default" : comment [40chr]

"worldwide default" : observation site/country name [20chr]

0.0 : longitude[deg] for time standard (0.0 for GMT)

0.0 0.0 0.0 : longitude[deg] latitude[deg] altitude[m] of obs. site

1 : NDAY(number of meleor. data)/ YYYY MM DD HR(LST) PRS[atm] O3[cm,STP]

2000 1 1 0.0 1.0 0.3

Here important data are NDAY and data following it (1+NDAY records).

NDAY : number of data for pressure and ozone

YYYY MM DD HR(LST) : date and time in LST for data

PRS[atm] O3[cm,STP] : the atmospheric pressure in atm and

the ozone amount in (cm,STP)

If there are multiple data (NDAY>1), the values of PRS and O3

at measurement time are interpolated from all data. If NDAY=1,

the next one record data are applied for all measurements.

Longitude for time standard and that of observation site are used

for interpolation in case of NDAY>1.

Latitude and altitude of observation site are not used.

3-2. 'ins.para'(information on instrument) ... ins.para.example

'ins.para.example' is an example for 'ins.para' file. Any file name

is available for 'ins.para' file.

The contents of 'ins.para' file are as follows.

- instrument parameters -

"PS0000000" : instrument S/N [20chr]

30 : instrument type (POM-01L:10,11/ POM-01MKII:20,21,22/ POM-01,POM-02:30)

7 : NW(number of wavelengths)/ WL[cm]/ SVA[sr]

0.315E-04 0.400E-04 0.500E-04 0.675E-04 0.870E-04 0.940E-04 1.020E-04

2.500E-04 2.500E-04 2.500E-04 2.500E-04 2.500E-04 2.500E-04 2.500E-04

0 : NDAY(number of calib. constant data)/ YYYY MM DD HR(GMT) F0(IW=1,NW)

2000 1 1 0.0 0.000E-4 0.000E-4 0.000E-4 0.000E-4 0.000E-4 0.000E-4 0.000E-4

Here constants for the instrument are set. Serial number(S/N) for

sensor, wavelengths(WL), number of them(NW) and solid view angles(SVA)

for the instrument are given by PREDE Co.,Ltd. Calibration constants(F0)

for the instrument are also given, if possible. If F0s are unknown,

NDAY=0 is set.

Type of instrument(ITYP) that gives format type of data file is set.

An explanation for the following available types is given in the 4th

chapter of this document (4. Formats of data files).

For measurements on ground

ITYP=30: New format for POM-01,POM-02 ( 4-1.)

11: Standard format for POM-01L ( 4-2.)

10: Old format for POM-01L ( 4-3.)

For measurements on ship

ITYP=22: 3rd format for POM-01MKII ( 4-4.)

21: 2nd format for POM-01MKII ( 4-5.)

20: Old format for POM-01MKII ( 4-6.)

Regarding calibration constants(F0)

NDAY : number of data for calibration constants

YYYY MM DD HR(GMT) : date and time in GMT for data

F0 : calibration constants for the instrument

If there are multiple data (NDAY>1), the values of F0s at measurement

time are interpolated from all data. If NDAY=1, the next one record

data are applied for all measurements.

3-3. 'obs.para'(information on observation) ... obs.para.example

'obs.para.example' is an example for 'obs.para' file. Any file name

is available for 'obs.para' file.

The contents of 'obs.para' file are as follows.

- observation parameters -

"Example" : project name (or comment) [40chr]

"PREDE Co.,Ltd." : observation site (or ship) name [20chr]

"JAPAN" : country (or nationality) name [20chr]

135.0 : longitude[deg] for time standard (0.0 for GMT)

139.323 35.752 0.0 : longitude[deg] latitude[deg] altitude[m] of obs. site

24 : NA(number of angles)/ SA(scattering angles[deg])

0 2 3 4 5 7 10 15 20 25 30 40

50 60 70 80 90 100 110 120 130 140 150 160

Longitude for time standard, longitude and latitude of observation

site are used for calculation of position of the Sun at measurement

time. In case of measurements on ship by POM-01MKII these data of

this file are meaningless. Ship-born data files include them.

Altitude of observation site is not used.

Scattering angles(SA) and number of them(NA) for measurements are

set. Here the setting for standard measurement is given.

4. Formats of data files

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4-1. New format for POM-01,POM-02 (ITYP=30)

An example for data file format ITYP=30 is as follows.

POM-01,PS0000000,PS1202006, 139.323, 035.752,03/05/28,20:20:01,03/05/29,05:20:01

7,0315,0400,0500,0675,0870,0940,1020

03/05/28,20:20:02,03/05/29,05:20:02,H,Akiruno,TS\_POM01.obs

20:20:02,05:20:02,-108.59,009.45,9.7580E-10,5.2742E-07,8.2314E-06,4.3671E-05,6.3370E-05,4.4708E-06,6.8832E-05

20:20:07,05:20:07,-106.56,009.45,0.0000E+00,2.2725E-09,2.0612E-08,6.4651E-08,8.5274E-08,7.5722E-09,9.8419E-08

20:20:14,05:20:14,-105.55,009.45,0.0000E+00,1.9101E-09,1.6212E-08,4.9561E-08,5.0041E-08,3.2051E-09,4.3793E-08

20:20:20,05:20:20,-104.53,009.45,0.0000E+00,1.7144E-09,1.3832E-08,4.1458E-08,4.2046E-08,2.7039E-09,3.7140E-08

20:20:27,05:20:27,-103.52,009.45,0.0000E+00,1.5880E-09,1.2250E-08,3.5751E-08,3.6263E-08,2.3399E-09,3.2234E-08

a. Total header (the 1st 2 records):

1st record : model, S/N for body, S/N for sensor, longitude, latitude,

date(GMT), time(GMT), date(LT), time(LT) of the start time

2nd record : number of wavelengths, wavelengths

\* Dummy(0000000) is set as S/N for body and sensor for the time being.

b. Measurement header (1 record):

date(GMT), time(GMT), date(LT), time(LT), H/V, comment1, comment2

\* H/V (H or V) gives the direction of scan; horizontal(almucantar)

or vertical(principal plane).

c. N measurements for the respective scattering angles (n records):

time(GMT), time(LT), azimuth, elevation,

intensities for the respective wavelengths

\* Data for one scan(b.+c.) is repeated after total header(a.).

4-2. Standard format for POM-01L (ITYP=11)

An example for data file format ITYP=11 is as follows.

08:14:49,H,2000/12/10,PSS070350

6.7802E-08,1.5068E-05,7.6698E-05,9.0523E-05,1.0126E-05,7.1495E-05

-8.2016E-12,6.6803E-09,2.2807E-08,5.6549E-08,9.1782E-09,6.8382E-08

-1.4297E-11,4.4540E-09,1.4495E-08,9.6878E-09,1.0673E-09,6.9298E-09

-1.5923E-11,3.7651E-09,1.1253E-08,6.8451E-09,7.0976E-10,4.9347E-09

-1.6823E-11,3.3928E-09,9.5032E-09,5.4306E-09,5.5748E-10,3.9497E-09

-1.7883E-11,3.0312E-09,7.7667E-09,3.7704E-09,3.7582E-10,2.7306E-09

-1.8616E-11,2.7863E-09,6.6612E-09,2.6520E-09,2.4582E-10,1.8689E-09

b. Measurement header (1 record):

time(LT), H/V, date(LT), comment

\* H/V (H or V) gives the direction of scan; horizontal(almucantar)

or vertical(principal plane).

c. N measurements for the respective scattering angles (n records):

intensities for the respective wavelengths

\* Data for one scan(b.+c.) is repeated.

4-3. Old format for POM-01L (ITYP=10)

An example for data file format ITYP=10 is as follows.

00/12/10,08:14:49,H,PSS070350

0.0, 6.7802E-08,1.5068E-05,7.6698E-05,9.0523E-05,1.0126E-05,7.1495E-05

2.0, -8.2016E-12,6.6803E-09,2.2807E-08,5.6549E-08,9.1782E-09,6.8382E-08

3.0, -1.4297E-11,4.4540E-09,1.4495E-08,9.6878E-09,1.0673E-09,6.9298E-09

4.0, -1.5923E-11,3.7651E-09,1.1253E-08,6.8451E-09,7.0976E-10,4.9347E-09

5.0, -1.6823E-11,3.3928E-09,9.5032E-09,5.4306E-09,5.5748E-10,3.9497E-09

7.0, -1.7883E-11,3.0312E-09,7.7667E-09,3.7704E-09,3.7582E-10,2.7306E-09

b. Measurement header (1 record):

date(LT), time(LT), H/V, comment

\* H/V (H or V) gives the direction of scan; horizontal(almucantar)

or vertical(principal plane).

c. N measurements for the respective scattering angles (n records):

scattering angle, intensities for the respective wavelengths

\* Data for one scan(b.+c.) is repeated.

4-4. 3rd format for POM-01MKII (ITYP=22)

An example for data file format ITYP=22 is as follows.

03:00:50,H,1,A, 131.137, 35.347, 11, 29, 0,03/09/16,03/09/16,03:00:50,SHIRASE

0.00

1, 4.7379E-09,-29.81, 53.90,03:01:05,5.734,4.802,4.389,4.996,-0.56,+0.44

2, 3.1097E-05,-30.00, 53.87,03:01:32,5.734,4.802,4.293,4.918,-0.63,-0.43

3, 1.1024E-04,-30.00, 53.67,03:01:35,5.812,4.802,4.333,5.033,-0.56,-0.48

4, 2.0544E-04,-30.04, 53.57,03:01:49,5.695,4.829,4.408,5.003,-0.55,-0.45

5, 1.9129E-04,-29.91, 53.84,03:01:38,5.695,4.802,4.254,5.035,-0.61,+0.24

6, 4.7958E-05,-29.71, 53.88,03:01:39,5.738,4.825,4.293,5.035,-0.93,-0.35

7, 1.2639E-04,-29.49, 54.05,03:01:53,5.735,4.840,4.409,4.978,-0.71,+0.31

2.00

1, 4.2725E-12,-26.01, 53.99,03:01:56,5.695,4.995,4.838,5.040,-0.53,+0.45

2, 2.3030E-08,-26.01, 53.99,03:01:58,5.712,4.995,4.837,4.959,-0.41,+0.08

3, 4.7607E-08,-26.01, 53.99,03:02:00,5.735,4.978,5.032,4.958,-0.37,-0.29

4, 4.8843E-08,-26.01, 53.99,03:02:01,5.812,4.983,5.032,4.959,-0.27,-0.61

5, 4.0428E-08,-26.01, 53.99,03:02:03,5.695,4.986,4.916,4.889,-0.31,-0.54

6, 1.5668E-08,-26.01, 53.99,03:02:04,5.731,4.995,4.837,4.958,-0.61,-0.39

7, 5.9509E-08,-26.01, 53.99,03:02:06,5.656,4.919,4.760,5.035,-0.50,+0.36

a. Measurement header (1 record):

time(LT), H/V, , , longitude, latitude, , , ,

date(LT), date(GMT), time(GMT), comment

\* H/V (H or V) gives the direction of scan; horizontal(almucantar)

or vertical(principal plane).

b. scattering angle (1 record):

i-th scattering angle

c. NW(number of wavelengths) measurements for the respective wavelengths:

No, intensity, azimuth, elevation, time(GMT), Hf, Vf, Hn, Vn, pit, rol

\* Hf, Vf, Hn, Vn, pit and rol are data for ship shaking that leave

out of consideration now.

\* Data for one scan is composed of header(a.) and repetition of (b.+c.).

4-5. 2nd format for POM-01MKII (ITYP=21)

An example for data file format ITYP=21 is as follows.

00:00:50,H,1,A, 139.694, 35.490, 0,-180, 0,02/10/02,02/10/02,00:00:50,SHIRASE

0.00

1, 6.2798E-09,-34.77, 38.42,6.631,4.815,4.448,5.035,-0.85,+0.55

2, 6.4224E-05,-34.60, 38.50,6.678,4.833,4.369,5.073,-0.87,+0.47

3, 1.9680E-04,-34.59, 38.51,6.670,4.802,4.409,5.041,-0.85,+0.50

4, 3.0602E-04,-34.59, 38.51,6.682,4.840,4.409,5.035,-0.85,+0.52

5, 2.4704E-04,-34.59, 38.51,6.639,4.840,4.409,5.085,-0.86,+0.54

6, 4.7234E-05,-34.64, 38.48,6.670,4.762,0.167,5.290,-0.83,+0.52

7, 1.5034E-04,-34.64, 38.48,6.713,4.802,0.167,5.045,-0.83,+0.56

2.00

1, 2.3651E-12,-37.05, 38.55,6.712,4.683,3.785,5.074,-0.87,+0.51

2, 1.5027E-08,-37.05, 38.55,6.592,4.684,3.785,5.074,-0.85,+0.52

3, 4.0436E-08,-37.05, 38.55,6.627,4.715,3.824,5.795,-0.84,+0.51

4, 5.5000E-08,-37.05, 38.55,6.640,4.675,3.669,5.151,-0.84,+0.52

5, 8.7799E-08,-37.05, 38.55,6.709,4.646,3.824,5.074,-0.86,+0.47

6, 1.9790E-08,-37.05, 38.55,6.745,4.646,3.669,5.226,-0.85,+0.53

7, 6.0242E-08,-37.05, 38.55,6.748,4.652,3.669,5.074,-0.85,+0.51

a. Measurement header (1 record):

time(LT), H/V, , , longitude, latitude, , , ,

date(LT), date(GMT), time(GMT), comment

\* H/V (H or V) gives the direction of scan; horizontal(almucantar)

or vertical(principal plane).

b. scattering angle (1 record):

i-th scattering angle

c. NW(number of wavelengths) measurements for the respective wavelengths:

No, intensity, azimuth, elevation, Hf, Vf, Hn, Vn, pit, rol

\* Hf, Vf, Hn, Vn, pit and rol are data for ship shaking that leave

out of consideration now.

\* Data for one scan is composed of header(a.) + repetition of (b.+c.).

4-6. Old format for POM-01MKII (ITYP=20)

An example for data file format ITYP=20 is as follows.

08:20:14,H,1,Q, 18.000,-34.000, 0, 0,99/02/08,INDOEX

1, 9.3437E-09,-60.43, 51.23,6.308,5.024,4.166,5.256,-0.40,-0.61

2, 7.0435E-05,-59.76, 51.28,6.269,5.023,4.166,5.292,-0.40,-0.51

3, 2.2034E-04,-60.03, 51.21,6.308,5.023,4.127,5.261,-0.38,-0.55

4, 3.6163E-04,-60.29, 51.18,6.308,5.023,4.127,5.334,-0.39,-0.67

5, 2.8236E-04,-60.39, 51.20,6.268,5.022,4.204,5.279,-0.40,-0.60

6, 1.0342E-04,-59.89, 51.34,6.276,5.061,4.205,5.334,-0.40,-0.63

7, 1.6074E-04,-59.93, 51.35,6.269,5.057,4.204,5.275,-0.42,-0.61

2.00

1, 3.5858E-12,-56.77, 51.35,6.279,5.294,4.789,5.319,-0.39,-0.64

2, 1.2032E-08,-56.77, 51.35,6.269,5.178,4.828,5.334,-0.41,-0.54

3, 2.6459E-08,-56.77, 51.35,6.308,5.199,4.828,5.300,-0.41,-0.53

4, 3.5881E-08,-56.77, 51.35,6.308,5.212,4.828,5.370,-0.41,-0.56

5, 6.4613E-08,-56.77, 51.35,6.308,5.204,4.790,5.334,-0.38,-0.66

6, 3.4607E-08,-56.77, 51.35,6.269,5.186,4.868,5.334,-0.39,-0.62

7, 5.4794E-08,-56.77, 51.35,6.269,5.219,4.828,5.372,-0.41,-0.61

a. Measurement header (1 record):

time(LT/GMT), H/V, , , longitude, latitude, , , date(LT/GMT), comment

\* LT or GMT for date and time is chosen by user.

\* H/V (H or V) gives the direction of scan; horizontal(almucantar)

or vertical(principal plane).

b. scattering angle (1 record):

i-th scattering angle

\* There is no data for the 1st scattering angle(=0.00).

c. NW(number of wavelengths) measurements for the respective wavelengths:

No, intensity, azimuth, elevation, Hf, Vf, Hn, Vn, pit, rol

\* Hf, Vf, Hn, Vn, pit and rol are data for ship shaking that leave

out of consideration now.

\* Data for one scan is composed of header(a.) + repetition of (b.+c.).

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