rtim_Format_File_Scintillation

This section describes version 1.1 of this format.
General features of the format:

- ASCII text file.
- All fields are fixed width fields.
- The file contains one or more epochs. Each epoch contains zero or more data records.
- The file may contain other information, in lines that start with the characters '#' or '%'
  - '%' Marks a comment line. The rest of the line may contain anything.
  - '#' Marks an instruction line. The character is followed by a space, then a string (with no whitespaces) identifying the type of information, then another space. The defined types are listed in the table below.
  - From version 1.1 onwards, the first line of the file must be the “# VERSION” instruction line.
  - Instruction and comment lines may be placed before the first epoch line, between a completed epoch section and the next epoch section, or at the end of the file. They may NOT be placed in the middle of an epoch section.

List of instruction types	
Start of line	**Description**
“# VERSION ”	The line continues with the major version number, a dot, and the minor version number. The C format string for the entire line is: `“# VERSION %3i.%-3i\n”`

An epoch section starts with the epoch line, which contains:

- Year (4 digits)
- Month (2 digits)
- Day (2 digits)
- Hour (2 digits)
- Minute (2 digits)
- Second (5 character field, minimum 1 digit after the decimal point)
- The number of records for this epoch (3 digits)

There is one space between each number.

The C format string for the epoch line is:

```
"%4i %02i %02i %02i %02i %5.1f %03i\n"
```

Within the epoch, there is a number of single-line records. This number was specified in the epoch line. Each single-line data record contains:

- Satellite id number (3 character field)
- IPP Longitude [degrees] (7 character field, 2 digits after the decimal point)
- IPP Latitude [degrees] (7 character field, 2 digits after the decimal point)
- Elevation [degrees] (7 character field, 2 digits after the decimal point)
- S4 for L1 (7 character field, 3 digits after the decimal point)
- σ_{φ} for L1 (7 character field, 3 digits after the decimal point)
- The spectrum slope for L1 (7 character field, 3 digits after the decimal point)
- S4 for L2 (7 character field, 3 digits after the decimal point)
- σ_{φ} for L2 (7 character field, 3 digits after the decimal point)
- The spectrum slope for L2 (7 character field, 3 digits after the decimal point)

There is one space between each number.

There is one space at the start of the line.

The C format string for a data record line is:

```
" %3i %7.2f %7.2f %7.2f %7.3f %7.3f %7.3f %7.3f %7.3f %7.3f\n"
```

A small example of the format:

```
# VERSION   1.1
% This is an example file
% Note that comment lines may also contain no text:
%
% Now lets see some data:
2011 09 27 07 49  30.0 005
   1    3.46   79.51    1.78   0.150   0.068   0.000   0.109   0.078   0.000
   4   29.01   58.18   17.43   0.125   0.033   0.000   0.000   0.027   0.000
   9   12.74   58.26   59.49   0.000   0.010   0.000   0.000   0.008   0.000
  12    7.69   59.12   67.02   0.022   0.013   0.000   0.014   0.017   0.000
  14    1.87   61.99   39.87   0.055   0.016   0.000   0.000   0.013   0.000
2011 09 27 07 50  30.0 006
   1    2.72   79.75    1.50   0.159   0.086   0.000   0.147   0.096   0.000
   4   28.85   58.27   17.71   0.087   0.032   0.000   0.000   0.026   0.000
   9   12.80   58.22   58.99   0.010   0.010   0.000   0.000   0.008   0.000
  12    7.75   59.14   67.50   0.017   0.015   0.000   0.016   0.017   0.000
  14    1.90   61.94   40.07   0.056   0.021   0.000   0.000   0.016   0.000
  15   10.51   40.30    1.49   0.219   0.069   0.000   0.119   0.114   0.000
% This comment serves only as an example
% of placing a comment between records
2011 09 27 07 51  30.0 005
   1    1.94   79.99    1.21   0.188   0.092   0.000   0.167   0.087   0.000
   4   28.69   58.36   18.00   0.062   0.033   0.000   0.000   0.027   0.000
  12    7.81   59.16   67.98   0.032   0.014   0.000   0.012   0.018   0.000
  14    1.93   61.90   40.27   0.073   0.020   0.000   0.000   0.016   0.000
  15   10.53   39.93    1.09   0.131   0.071   0.000   0.158   0.113   0.000
% The end (of the file) is near
```