



Zhao, Jun-Hui <jzhao@cfa.harvard.edu>

Antenna-based error information | Status of flags7 messages

Zhao, Jun-Hui <jzhao@cfa.harvard.edu>
To: Attila Kovacs <attila.kovacs@cfa.harvard.edu>

Tue, Nov 27, 2018 at 11:34 AM

Hi Attila,

As we discussed on our last meeting, we need to extract the information antenna-based error information as function of time or scan number. These information are stored in the header table **we_read** as you pointed out. Unlike other header tables, we have issues to extract the information from this table. It is possible that I have missed something in my program or the structure of **we_read** given in the current SMA data file format (posted on wiki by Taco, Attila tags: [data:analysis](#) last updated: 2018-11-15 10:25:10) may need to update.

Do you have an handy C routine to read this table?

Thanks, Jun-Hui

--

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Attila Kovacs <attila.kovacs@cfa.harvard.edu>
To: "Zhao, Jun-Hui" <jzhao@cfa.harvard.edu>

Tue, Nov 27, 2018 at 11:55 AM

Hi Jun-Hui

The antenna based error information is in `sp_read` (not `we_read`).

Its the 'flags' component, which is a 4-byte integer. Each of the 32 bits is a specific flag condition, as discussed on the wiki page on the data format.

-- A.

On 11/27/18 11:34 AM, Zhao, Jun-Hui wrote:
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*Jun-Hui Zhao

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Attila Kovacs <attila.kovacs@cfa.harvard.edu>

Tue, Nov 27, 2018 at 11:56 AM

To: "Zhao, Jun-Hui" <jzhao@cfa.harvard.edu>

I should add that the flags are baseline-based (not antenna based), since the data file is entirely baseline-based.

-- A.

Zhao, Jun-Hui <jzhao@cfa.harvard.edu>

Tue, Nov 27, 2018 at 12:07 PM

To: Attila Kovacs <attila.kovacs@cfa.harvard.edu>

Which parameters? "in flags" ? Thanks, Jun-Hui

[Quoted text hidden]

--

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Attila Kovacs <attila.kovacs@cfa.harvard.edu>
To: "Zhao, Jun-Hui" <jzhao@cfa.harvard.edu>

Tue, Nov 27, 2018 at 12:16 PM

Hi Jun-Hui,

I misspoke a bit, sorry.

You are correct that 'we_read' has, in fact, the antenna based flag information, since 'we_read' reports information from each weather station (that is the hangar, and each of the antennas).

However, I'd guess it's a bit weird (although totally possible) to dig these flags out of the weather file.

I'd say it's better to deal with the baseline flags from the 'sp_read' file. The flags there have the same interpretation as in 'we_read', except that they are merged from the two antennas that constitute the baseline.

-- A.

On 11/27/18 12:07 PM, Zhao, Jun-Hui wrote:

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[Quoted text hidden]

Zhao, Jun-Hui <jzhao@cfa.harvard.edu>
To: Attila Kovacs <attila.kovacs@cfa.harvard.edu>

Tue, Nov 27, 2018 at 12:38 PM

This is the issue of the MIR-IDL. **CASA** needs antenna-based information. This applies to **Tsys** as well. It would be a good idea to provide antenna-based information. The table **we_read** appears to have stored the **antenna-based error** information along with the **antenna-based weather information** for each of the time steps that we need for fixing the data issues and perhaps in calibrations. It is matter to extract the valuable data from this header table. Can we extract the information from **we_read** ?

For the table **tsys_read**, it is not too difficult to solve for antenna-based **Tsys** from the baseline-based storage. But the **Tsys** values seem to be misplaced between lower/upper IF entries and receiver entries when the **SMA** in the **dual RX** operation modes. We need to sort out the confusion.

Thanks, Jun-Hui

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[Quoted text hidden]

Zhao, Jun-Hui <jzhao@cfa.harvard.edu>

Tue, Nov 27, 2018 at 1:03 PM

To: Attila Kovacs <attila.kovacs@cfa.harvard.edu>

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CASA needs **antenna-based flags**. We could solve it from the **baseline-based** entries stored in **sp_read**. But the on-line storage format has not defined the **baseline-based flag status**; for example, antenna1 is on flag status **0x00000004** and antenna2 is on other status **0x00400000**, how do we define the flag status for the baseline antenna1-antenna2? For a total of 22 antenna-based flag status, the number of combinations for possible baseline-based flag status will be tremendous. How do we handle the definition? Of course, we can solve for the **antenna-based flag status** from **baseline-based storage** if the online data supply adequate information.

It would be a practical way to read the table **we_read**. What do you think?

Jun-Hui

[Quoted text hidden]

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Jun-Hui Zhao

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