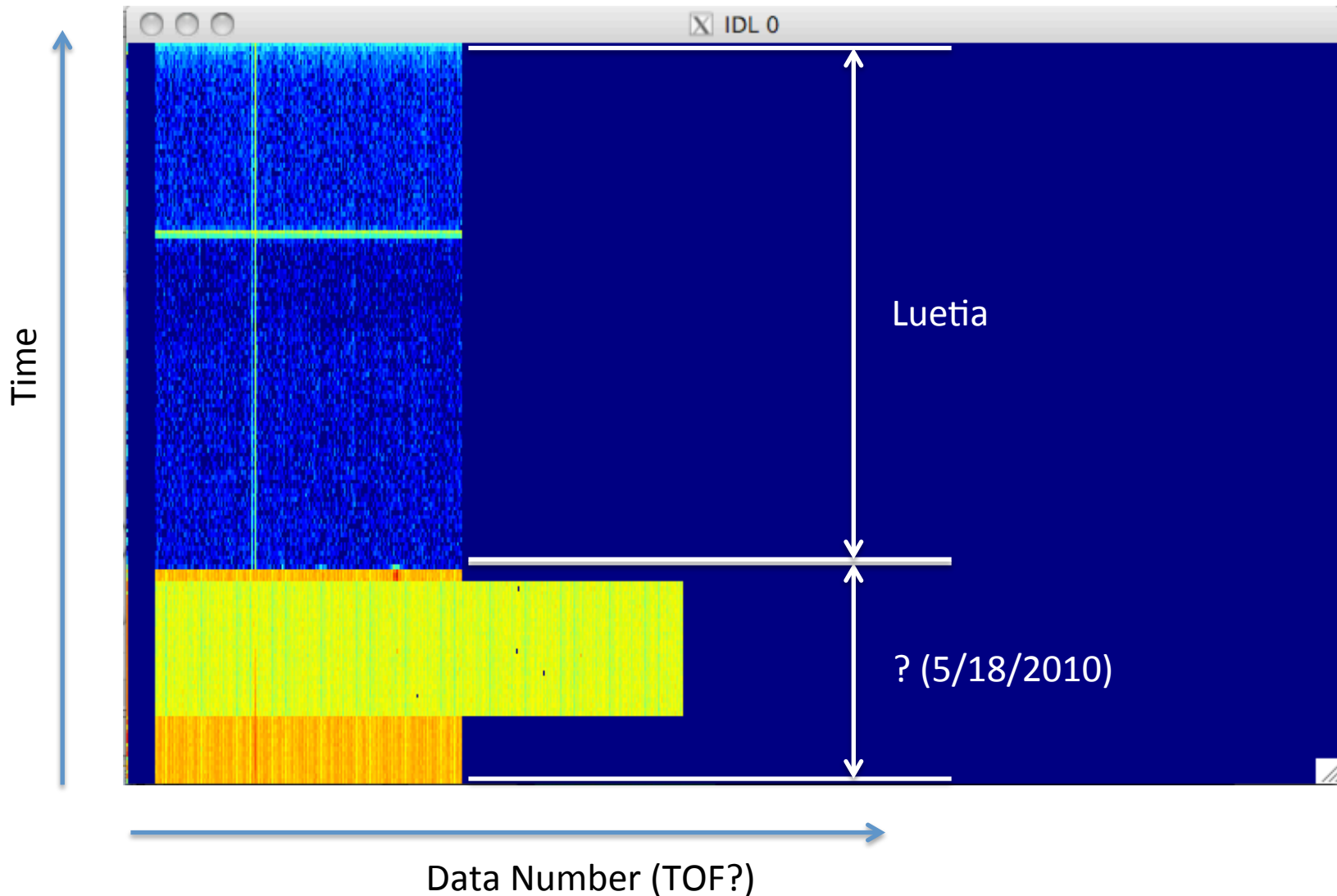
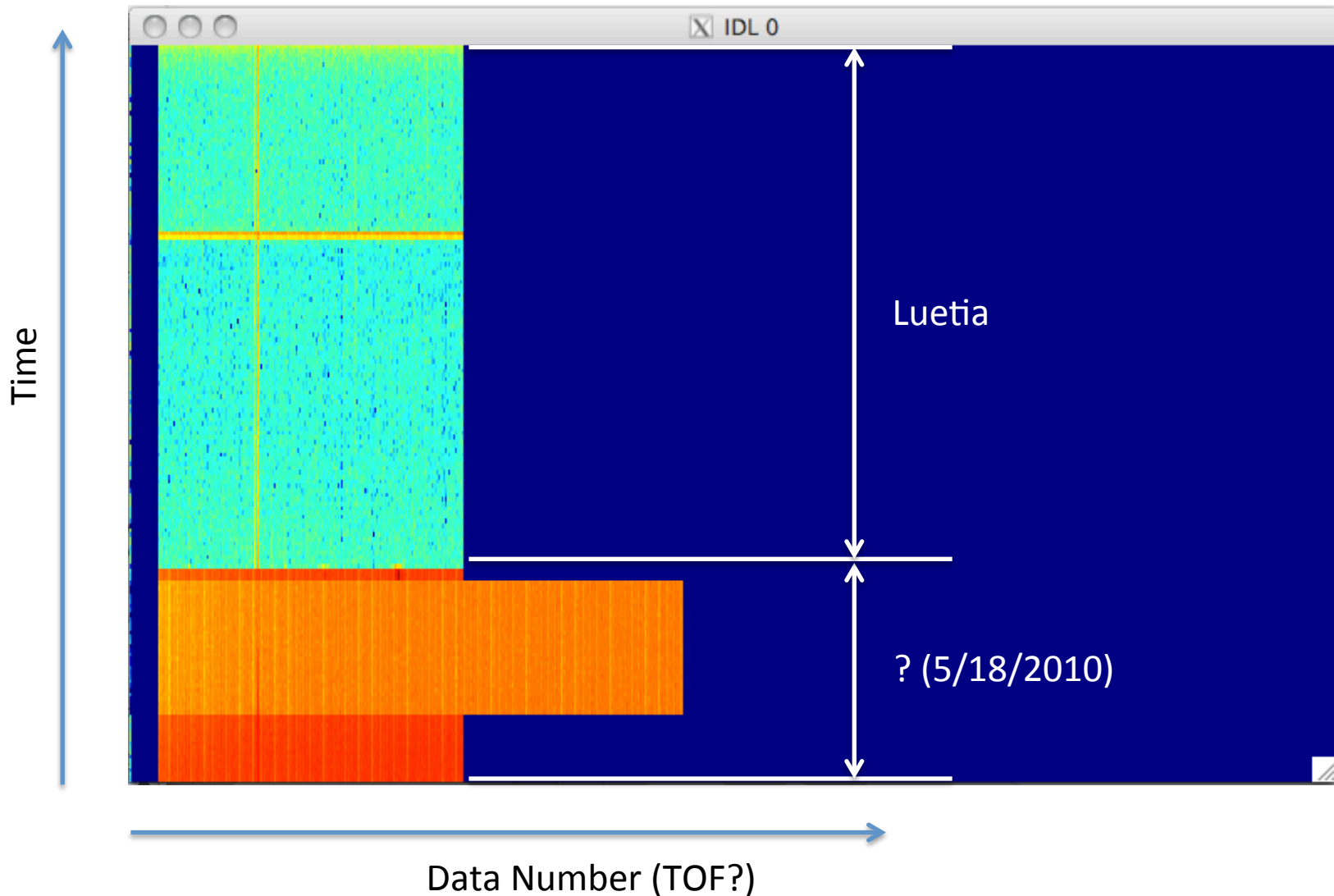


# ROSINA - Review

# RTOF – Storage Source Column 2 (Event Data)



# RTOF – Storage Source Column 1 (Histogram Data)



# What is Histogram Data and what is Event Data?

- Probably needs a RID.
- Could not be found in the data to my eyes.

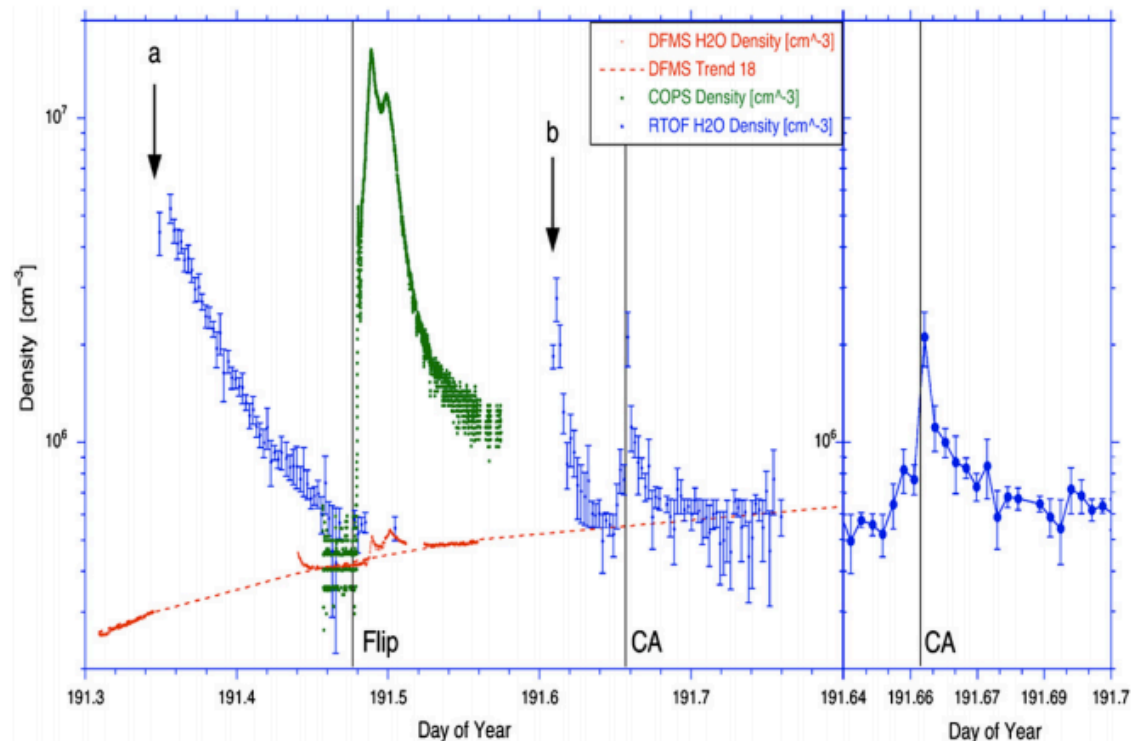
```
--- Contents of file RTOF_DATA.FMT-----  
OBJECT = COLUMN  
  NAME = COUNT  
  DESCRIPTION = "Channelnumber. The values are in the  
                range from 1 to 131099 and ascending."  
  UNIT = "CHANNEL_NUMBER"  
  DATA_TYPE = ASCII_INTEGER  
  START_BYTE = 1  
  BYTES = 3  
END_OBJECT = COLUMN  
OBJECT = COLUMN  
  NAME = HISTOGRAM  
  DESCRIPTION = "Histogram data of RTOF ETS. Field  
                contains 0 for ETSL"  
  UNIT = "EVENT_NUMBER"  
  DATA_TYPE = ASCII_INTEGER  
  START_BYTE = 5  
  BYTES = 17  
END_OBJECT = COLUMN  
OBJECT = COLUMN  
  NAME = EVENT  
  DESCRIPTION = "RTOF Event data of either ETS or ETSL"  
  UNIT = "EVENT_NUMBER"  
  DATA_TYPE = ASCII_INTEGER  
  START_BYTE = 23  
  BYTES = 17  
END_OBJECT = COLUMN  
OBJECT = COLUMN  
  NAME = "SPARE"  
  DESCRIPTION = "Blank padding to fixed record length"  
  DATA_TYPE = "CHARACTER"  
  START_BYTE = 41  
  BYTES = 38  
END_OBJECT = COLUMN  
-- EOF -----
```

# Dataset.cat

- “Because of several uploads of new voltage settings the data cannot be compared between the different commissioning slots, neither in intensity nor in mass scale! The data can be used only for engineering purposes.”

# Dataset.cat

- “DFMS and RTOF data are uncalibrated and will remain uncalibrated because they have no scientific value.”



Altwegg et al. (2011)

# Dataset.cat

- “It does not make sense and it is scientifically not correct if ROSINA team archive the **Steins** flyby data with 'calibrated' units without being sure that they are correct and without being able to give a uncertainty value. “

# RID 282

## PSA Rosetta Review Center

Home » RID List » 282

### Lack of calibration info

#### RID Details

RID ID:	282	Instrument:	ROSINA
Status:	Open		
Created On:	23 Mar 2012 07:53 PM	Last Update:	23 Mar 2012 07:53 PM

#### ROSINA

**Dataset:** RO-A-ROSINA-2-AST2-V1.0

#### RID Information

<b>RID Classification:</b>	Major
<b>Location:</b>	Document
<b>Location Details:</b>	CALINFO.TXT
<b>Title:</b>	Lack of calibration info
<b>Description:</b>	Without the values of data number to time of flight for the RTOF and various other calibration factors that should be given at least from a ground calibration perspective it is impossible to make sense of the data.
<b>Recommended Solution:</b>	Include calibration data in the archive



# RID 281

## PSA Rosetta Review Center

Home » RID List » 281

### Ability to Analyze Data

#### RID Details

RID ID:	281	Instrument:	ROSINA
Status:	Open	Last Update:	23 Mar 2012 07:51 PM
Created On:	23 Mar 2012 07:51 PM		

#### ROSINA

**Dataset:** RO-A-ROSINA-2-AST2-V1.0

#### RID Information

<b>RID Classification:</b>	Major
<b>Location:</b>	Data Product
<b>Location Details:</b>	DATASET.CAT
<b>Title:</b>	Ability to Analyze Data
<b>Description:</b>	Statement from dataset.cat: "Because of several uploads of new voltage settings the data cannot be compared between the different commissioning slots, neither in intensity nor in mass scale! The data can be used only for engineering purposes." This statement is confusing and gives the user the necessary caution in using the data set, however without the information about what voltage changes this relates to it is impossible to make sense of the data.
<b>Recommended Solution:</b>	Describe this in more detail and give the user the parameters needed to utilize the data.

# RID 280

## PSA Rosetta Review Center

Home » RID List » 280

### Data applicability

#### RID Details

RID ID:	280	Instrument:	ROSINA
Status:	Open		
Created On:	23 Mar 2012 07:47 PM	Last Update:	23 Mar 2012 07:47 PM

#### ROSINA

**Dataset:** RO-A-ROSINA-2-AST2-V1.0

#### RID Information

<b>RID Classification:</b>	Minor
<b>Location:</b>	Document
<b>Location Details:</b>	DATASET.CAT
<b>Title:</b>	Data applicability
<b>Description:</b>	The Data set overview suggests that the only data that is useful in this set is the COPS data. However given the Altwegg et al publications it is clear that the RTOF instrument produced good data here too.
<b>Recommended Solution:</b>	Better documentation and description of what is available

# RID 294

## PSA Rosetta Review Center

Home » RID List » 294

### Insufficient information to interpret data files

#### RID Details

RID ID:	294	Instrument:	ROSINA
Status:	Open		
Created On:	24 Mar 2012 08:10 AM	Last Update:	24 Mar 2012 08:10 AM

#### ROSINA

**Dataset:** RO-A-ROSINA-2-AST2-V1.0

#### RID Information

<b>RID Classification:</b>	Major
<b>Location:</b>	Data Product
<b>Location Details:</b>	Contents of /revpro/RO-A-ROSINA-2-AST2-V1.0/DATA/RTOF directory
<b>Title:</b>	Insufficient information to interpret data files
<b>Description:</b>	One is unable to plot a calibrated mass spectrum (i.e. in terms of species densities) with the information given in the documentation.

1. Columns 2 and 3 of the data: The columns are identified as "Histogram" and "Event" data in the RTOF\_DATA.FMT, with no further explanation given, as far as I can tell, in the documentation (or the instrument paper). What events are we counting in these columns? Is one a TDC mode, the other an ADC mode?

2. The data files: I cannot tell what is the number of RTOF extractions being co-added between the specified start and stop times. Of course this depends on the extraction rate and acquisition time. Presumably, the acquisition time is approximately the time between start and stop, but it's not clear if there is any dead time to be subtracted. And I did not even find the extraction rate. The exact same information should be given for the GCU scans, along with knowledge of the amount of gas injected during the applicable GCU scan, so that the RTOF spectra can be calibrated, i.e., converted to gas density for each species along the ROSETTA trajectory. If the information is there, certainly it is not easy to find.

<b>Recommended Solution:</b>	Include an additional field in the data file giving the number of co-added scans in the mass spectrum. Do the same in any GCU calibration spectra. In the GCU files, include also a field with the amount of gas injected. Include any other information needed.
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