
LoFASM Documentation

Release 1

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Apr 14, 2020

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```
class lofasm.bbx.bbx.LofasmFile(lofasm_file, header={'metadata': {}}, verbose=False,
                                mode='read', gz=None)
```

Class to represent .bbx-type data files for LoFASM. Currently, the only data format supported is 'LoFASM-filterbank'.

add_data (*data*)

add BBX data to memory to be written to file.

Write 1d or 2d data to memory to be written to disk. If invoked with a new file then the dimension fields in the metadata will be set.

Parameters *data* (*numpy.ndarray*) – Data array to be added to memory *data.ndim* must be either 1 or 2. The data type of the elements in the stored array will be inferred from *data*. Supported data types are *np.complex128* and *np.float64*.

Raises

- *AssertionError* – If file is not opened in write mode.
- *NotImplementedError* – If the dimensions of *data* are not supported.
- *ValueError* – If either the number of channels in *data* or the data type doesn't match the pre-existing data, if there is any.

close ()

close file object

in reading mode, the file handle is simply closed in writing mode, write final header info to tmp file, close tmp files, concat hdr and data portions, then gzip the result if requested.

read_data (*N=None*)

Parse data block in LoFASM filterbank file and load into memory as *self.data*. The resulting data array in *self.data* is stored as a 2d array with *dim1* as the vertical axis and *dim2* as the horizontal axis. If reading a typical LoFASM-filterbank file then the x-axis will represent the time bins and the y-axis will represent the frequency bins.

Parameters *N* (*int*) – The number of rows to read. If not provided, then attempt to read the entire file (read all rows). If *num_time_bin* is larger than the number of time bins in the file then read the entire file. A value of 0 will result in nothing being read.

Raises *AssertionError* – If file is not open for reading

set (*key, val*)

Set header or metadata fields Set or create header comment fields. If the field *key* exists then its value will be overwritten. If the field does not exist, then it will be created as a new comment field. If *key* exists as part of the metadata field, then the value will be overwritten.

Parameters

- **key** (*str*) – Header field name as a string.
- **val** (*str, int, float*) – Value that header field will be set to

write ()

Write current data contents to disk.

If at the beginning of the file write the BBX header first, then the data.

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