

Hi,

I have written a library of IDL functions for reading, writing, and modifying HDF5 tables. I essentially ported the source code from HDF5 itself, making use of the low level H5* functions which are already implemented in IDL. The new library mimics the functionality of most of the existing HDF5 Table API (H5TB).

The library is called `wmb_lib`, and it is available at GitHub, here:

www.github.com/superchromix

The main hdf5 table reading/writing functions in the library are:

Table creation:

`wmb_h5tb_make_table.pro`

Storage:

`wmb_h5tb_append_records.pro`

`wmb_h5tb_write_records.pro`

`wmb_h5tb_write_fields_index.pro`

`wmb_h5tb_write_fields_name.pro`

Retrieval:

`wmb_h5tb_read_table.pro`

`wmb_h5tb_read_records.pro`

`wmb_h5tb_read_fields_index.pro`

`wmb_h5tb_read_fields_name.pro`

Query:

`wmb_h5tb_get_table_info.pro`

`wmb_h5tb_get_field_info.pro`

Modification:

`wmb_h5tb_insert_records.pro`

`wmb_h5tb_add_records_from.pro`

`wmb_h5tb_combine_tables.pro`

Documentation and examples of how to use these functions can be found in:

`wmb_h5tb_examples.pro`

Also, the HDF5 table functions are documented online here:

<http://www.hdfgroup.org/HDF5/Tutor/h5table.html>

http://www.hdfgroup.org/HDF5/doc/HL/RM_H5TB.html

Since the HDF5 Table API is based on HDF5 version 1.8, I was surprised that it was possible to create this library at all using IDL's HDF5 interface functions (based on HDF5 version 1.6). There are some limitations, however.

Limitations:

(as compared with the HDF5 Tables API in HDF5 version 1.8.10)

1. This library does not support fill values - if you want the table automatically filled with something other than zeros you have to write the fill data explicitly.
2. The library does not have a way to write to only one column of a multi-column table. The `wmb_h5tb_write_fields_*` functions mimic this functionality, but they do so by loading the full sized records from the table, modifying the data in memory, and writing the full records back to the table.
3. The size of a table cannot be reduced - i.e. records cannot be deleted from a table.
4. Once a table is created, fields (columns) cannot be added or removed.

At present it is not possible to view HDF5 Tables in the IDL HDF5 data browser (H5_BROWSER). For viewing / editing tables therefore you can use the free HDFView tool available here:

<http://www.hdfgroup.org/hdf-java-html/hdfview/>

I hope that this is useful and I would welcome comments, improvements, bugfixes etc!

cheers,
Mark Bates
