.h5df data files

This subpage illustrates the basic use of the .h5 hierarchical data format for use with Matlab, Python and C (C++) with command line inputs and links to useful files.

C:

From Power 7 (Beatrice) node:

```
module load hdf5/1.8.11_serial_adv
```

loads the C libraries for the .h5 file manipulations.

The following webpage has example C program to create and save data structures:

https://www.hdfgroup.org/HDF5/examples/intro.html

To compile from Beatrice (this creates an empty .h5 file called dset.h5):

```
gcc -Wall -o h5_crtdat h5_crtdat.c -Wl,-rpath=${HDF5LIB} -lhdf5
```

and to run it:

```
./h5_crtdat
```

To compile h5_rdwt to write an array to the file dset.h5

```
gcc -Wall -o h5_rdwt h5_rdwt.c -Wl,-rpath=${HDF5LIB} -lhdf5
```

And to run:

```
./h5_rdwt
```

Matlab:

To load data from a . h5 file with dataset name 'dset'

```
dset=h5read('dset.h5','/dset')
```

To find header information about the .h5 file (eg the datasetname and data type)

```
fileinfo=hdf5info('dset.h5')
```

To write an entire dataset:

```
h5write(FILENAME,DATASETNAME,DATA)
```

Python:

h5rw.py contains wrappers for .h5 reading and writing in Python. First, import this package:

```
import h5rw
```

To read in the .h5 file:

```
temp=h5rw.h5read('dset.h5')
```

temp is a dictionary. To see the keys in this dictionary:

```
temp.keys()
```

To access the 'dset' entry in the dictionary:

```
temp['dset']
```

To write a dictionary to file:

```
h5rw.h5write('test.h5',temp)
```