Proposal for Production of a Lattice QCD Data Visualization Code Base

1 Objectives

These are the objectives for this project

- display and manipulate data
- learn pyvis and bokeh and python in general.
- learn how to co-ordinate and create a code base in a small group.

2 Time-frame

- 1.5 hour sessions a week (usually Friday 10:30 am).
- first meeting for planning.
- 1 meeting to understand bokeh and pyvis.
- 1 meeting to discuss data structure and IO
- 3 months to have running version.
- review after 3 months to discuss continuation. (first Friday of December)

3 Implementation

3.1 Code Structure/Graph

See fig. 1. Data is main class type for reading in data. All our data is inherited from Data. Our pyvis settings class take in Data object. IO is done in pyvis which links to io in data.

3.2 Data IO Standardization

- each data type has its own IO functions
- hdf5 through pandas

3.3 Packages
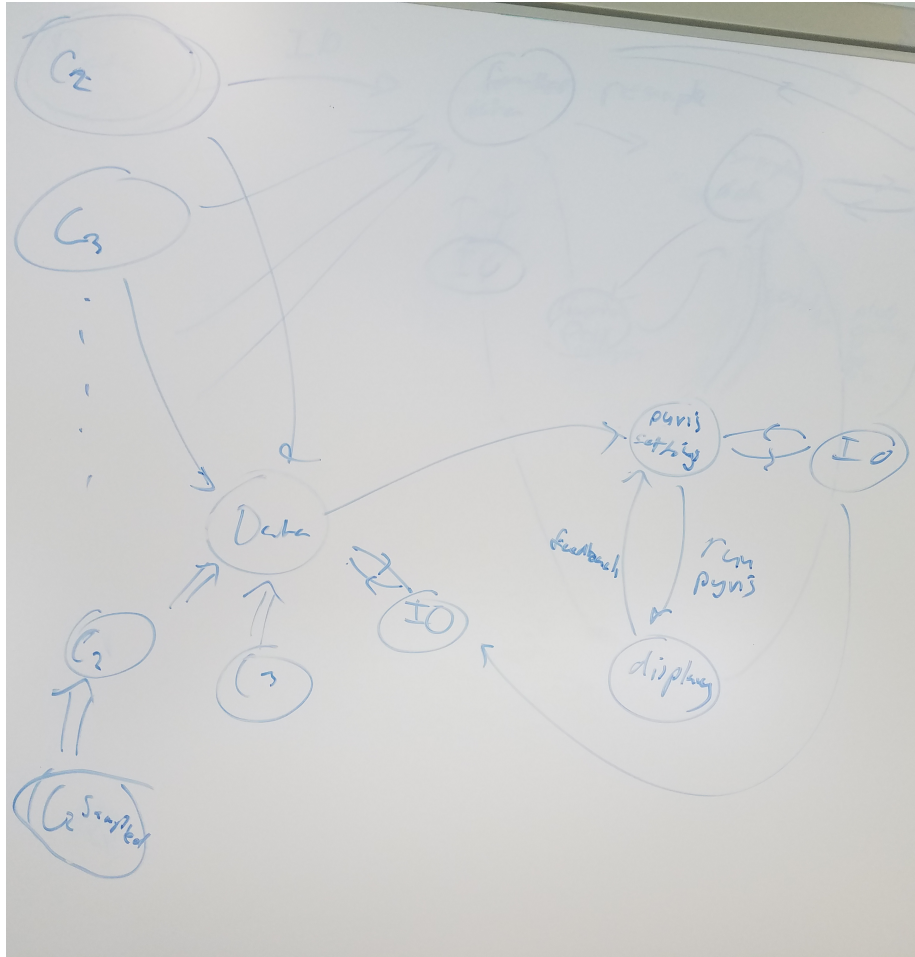
- pyvis
- bokeh
- pandas
- numpy

Figure 1: Code schematic for code base.

3.4   Debugging, Testing and Test Sets

- Test set of sample data tests the sampled data part of code

- test set for raw data to test io and data formatting.

4   Roles/Delegation

TBA after next two meetings.