Spectrometer Data Storage Specification Sheet

1 Simplicity

1.1 Conceptually Simple

- **Single measures:** Clearly define how to build a file with a single measure.
- **Attributes:** Clearly define how to store parameters associated with a single measure.
- **Hyper parameters:** Clearly define how to store measures that depend on multiple parameters.

1.2 Practically Simple

- The user should have a GUI that builds the file for him unambiguously.

2 Universality

2.1 Techniques

- We should be able to store any type of spectra from different techniques.

2.2 Dimensionality

- We should be able to store spectra without any dimensionality limitation.

3 Unify Treatment

3.1 Obtention of a Custom PSD

- The format should allow any steps leading to the obtention of a doublet {PSD, Frequency}.

3.2 Unified Treatment

- Once a {PSD, Frequency} doublet is obtained, the format should allow to treat unambiguously the data from the GUI.

3.3 Multiple Treatments

- The format should allow the user to store different treatments.

3.4 Process

- The format should allow the user to store the process used for the treatment.

4 Expandability for Future Applications

- The file format should allow for measures depending on an arbitrary number of hyper parameters.
- The format should unambiguously classify measures by the hyper parameter(s) that were varied for the experiment.

5 Compatibility with Other Techniques

- The file format should allow the storage of all relevant measures during an experiment (fluorescence, Raman, etc.).
- All Brillouin data should be stored in a single group to allow other complimentary techniques used in an experiment to be stored in complimentary groups.