Protocol: **N8 data architecture**

Experiment: Multidimensional data visualization

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**Time series data (continuous)**

Continuous data should be saved in an ND array with 8 dimensions (N8 array), using the following format:

|  |  |  |
| --- | --- | --- |
| **Dim.** | **Type** | **Data** |
| **1** | space | x |
| **2** | space | y |
| **3** | space | z |
| **4** | time | frame # |
| **5** | group | condition |
| **6** | group | other (subject) |
| **7** | group | other (trial) |
| **8** | group | other (n-trode) |

**Timestamp data (discontinuous)**

Timestamp data should be saved in an n x 8 matrix where each column specifies the location, time, etc. of the timestamp according to the same dimension specifications above. Variable name for timestamp data should be appended with “*\_ts*” for example *Spikes\_ts*.

**Container**

All data should be saved in structure array called *DATA*. For example, a data set with LFP and spike timestamps would have a single variable called *DATA*. Within *DATA,* continuous LFP data would be saved in *DATA.LFP* as an ND array with up to 8 dimensions. Spike timestamps would be saved in *DATA.Spikes\_ts* as an n x 8 array where n = number of timestamps.