**Timeline of Project Work.**

**Michaelmas Term:**

* Reading literature, in order to understand the requirements of the project.
* Set up of working environment, including folders, repositories, IDE’s etc.
* Discovery of issue of numerical integration, deferred for later consideration.

**Lent Term:**

First Half:

* Attempting implementation of model fitting with scipy directly. Unsuccessful.
* Attempting a more involved version with ROOT. Unsuccessful.
* Resorting to Numpy and Scipy as the main packages/libraries of choice.

Second Half:

* Attempt at a model definition trough averaging multiple instances of a lambda/OPD matrix.
* Developed part of the repository, which allows for continuous averaging of observations. Attempted to find a low-RAM solution to the averaging problem. This was via a passed indicator and lazily updating statistical values.
* The values of the standard deviation of the observed matrices were observed to be decreasing at a slowing rate.
* Abandoned Idea since it does not provide a model with the necessary accuracy.

**Lent to Easter Holiday and Easter Term:**

* Reverted back to attempting to implement global optimization, this time with a Bayesian Optimization package and scikit-learn Gaussian Regressor.
* Re-investigate the idea of numerical integration, for the purposes of reducing the parameters of the optimization.
* Investigate multiplier effect
* Investigate different models (polynomial, Fourier) via simplified observational techniques
* Use the original repository sparingly as it provides very slow execution
* Investigate possible different parameters
* Investigate different size parameter spaces.
* Searching for a model that would fit the requirements. Unsuccessful