

EFT Update

Shaun Alsum

Workshop tasks

- <https://docs.google.com/spreadsheets/d/1xKxRRktwllPOdVLffZRchY5gl48elg9Qn19GxG-pZ9I/edit#gid=1386834576>

PLR Code cleanup

- Understand how the whole thing works (see other slides)
- Get rid of unnecessary logical paths and nuisance parameters.

Isoscalar and Isovector implementation

- PLR code now takes additional arguments “s” and “v” (for scalar and vector) which set the coupling constants to $(p=1, n=1)$ and $(p=1, n=-1)$ respectively.

Implementing arbitrary binning

- In the background model:
 - Have a fine-binned model (bin sizes 1 s1) all the way up in energy
 - Sum appropriate bins into larger bins in the PLR code to make a specific background model on the fly
 - Appropriate bins for the run specified in a file generated based on the signal model

Implementing arbitrary binning

- In the Signal model:
 - Integrate the energy spectrum in rough bins until the next bin integrated is a small fraction of the total previously integrated. Save the point at which this happens
 - Integrate out to this point in finer bins for a better binned energy spectrum
 - Simulate the final (highest) energy point in NEST.
 - Allow bins out to these S1 and S2s in the actual signal model