

# LAMBDA Users' Group

3/23/2018 meeting

## Tools and simulations

- LAMBDA hosts Neelima Sehgal's simulations and associated documentation, which are excellent resources. Since that release, there have been several similar simulations. Researchers that might be interested in sharing sims are Dick Bond's group (including Marcelo Alvarez and Nick Battaglia), Salman Habib and Katrin Heitmann's group at Argonne group (including Lindsey Bleem), and the CMB-S4 forecasting group (including Julian Borrill, Clem Pryke, and Lloyd Knox). These simulations may not all be public yet, but it is worthwhile to start the discussion of hosting these on LAMBDA.
- Expand on the demonstration notebook for E&B estimators on a masked sky, including pedagogical examples.
- Host or link to lensing python notebook from Duncan Hanson (<https://github.com/dhanson/quicklens?>)

## Outreach

- Make a living document which reviews LAMBDA data and tools on GitHub. Publish this to the arxiv. This PDF could be given to students to orient them to tool and products on LAMBDA. A newsletter will take too much time, and the community does not have time to read these.

## Navigation

- Pages can be challenging to find. There's a mismatch between what a user expects and finds on a link. Users' group to send quick thoughts on this when they access LAMBDA products. Get input from people who are new to LAMBDA (grad students, researchers outside CMB). Data pages were relatively easy to navigate; others harder. Example of unexpected: "Data->About Products->Overview" is not expected and outdated. Should this be a tree of data, or delete? Consider making the search more prominent and useful. Tag the pages so that Google can best index them to find data quickly.
- Differentiate between external tools (perhaps as "Links") and LAMBDA tools. Differentiate between LAMBDA-provided web utilities (CAMB etc.) and GitHub pages of the downloadable software. Consider a pull-down sub-menu dedicated to web utilities. There is no link directly to github/nasa-lambda -- put this on the LAMBDA home page? Make it clear what LAMBDA offers as added value.

## Intensity mapping

- Intensity mapping: cross-correlation is a significant goal. Develop a way of showing surveys with redshift information (table?) and spatial footprints. Serve derived datasets that are useful for cross-correlation (e.g. Pullen's QSO binning). Add IM survey footprints to the display tool, to extent that they are known.

## ADAP

- Contact Doug Hudgins about ADAP reporting requirements and decide how LAMBDA can best support these.

## eGSM

- The eGSM is a new all-sky diffuse emission model, based on the empirical approach of the original GSM.
- Currently, LAMBDA does not host all input datasets. Add these to the diffuse foreground main page. Consider adding columns with fsky, FWHM and a thumbnail for each sky map input. The stack of maps for a particular eGSM model will be available as a versioned .tgz.
- The eGSM uses official collaboration products along with inputs (such as variance maps) which were generated just for the eGSM. Make a dedicated eGSM page which tabulates the specific inputs and assumptions.
- A Monte Carlo draws from the parameter posterior distribution in the eGSM. TODO two approaches: distribute this stack (several TB), and have the software generate MC draws procedurally for users.
- Make a web tool like CAMB which quickly generates eGSM maps.