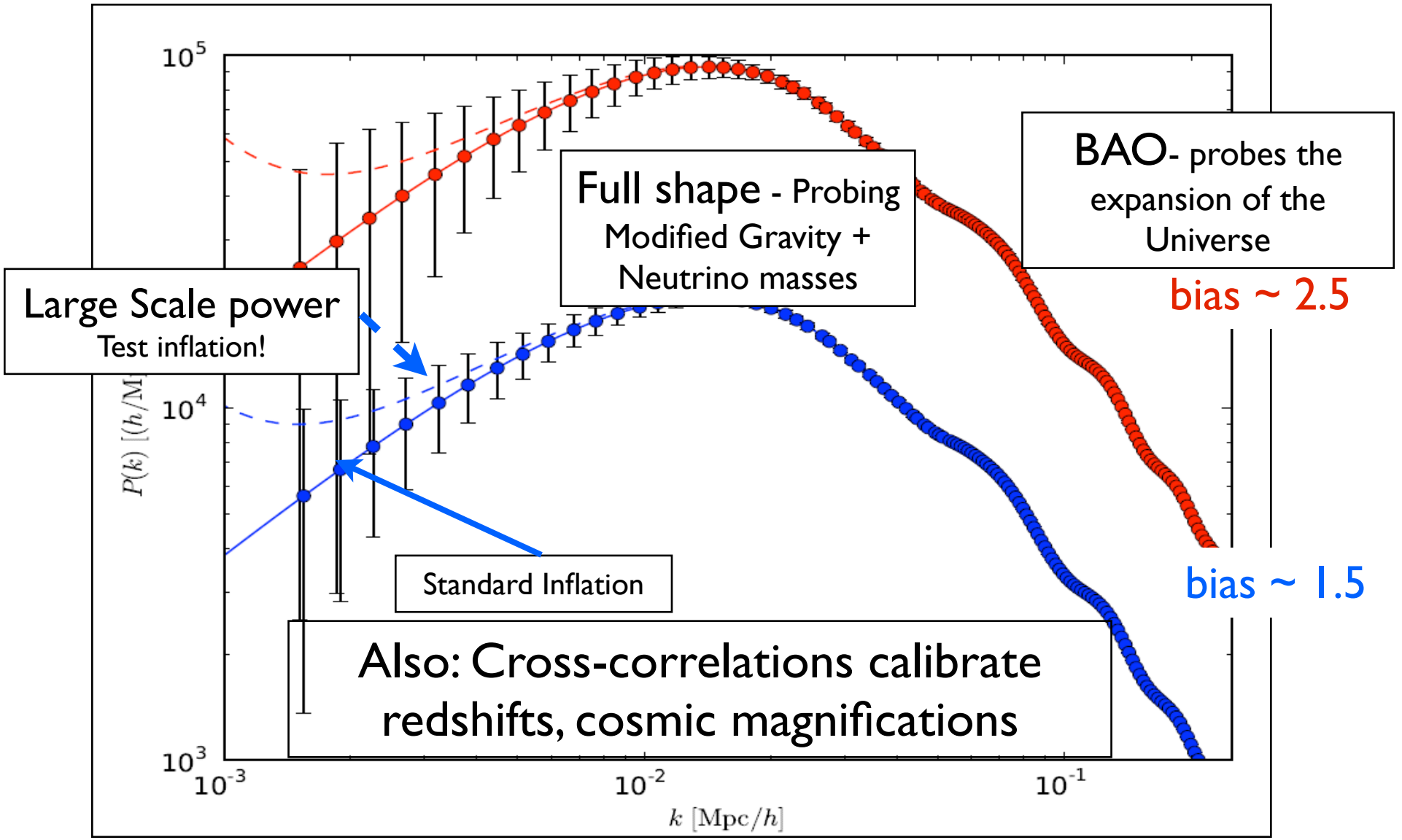
LSST-DESC
Large-Scale Structure
Analysis Working Group

LSS WG Convenors:
Shirley Ho (CMU) & Eric Gawiser (Rutgers)

What do we learn from Large Scale Structure ?



What did we decided to do as a group 1 year ago?

- Tools to remove known Systematics
- Analyze Image Simulations
- Setting Requirements on Systematics
- Scalable LSS analysis software
- Full Sky simulations with OpSim
- Tools to Detect unknown systematics

What have we done this year on these tasks ?

- Tools to remove known Systematics
- Analyze Image Simulations
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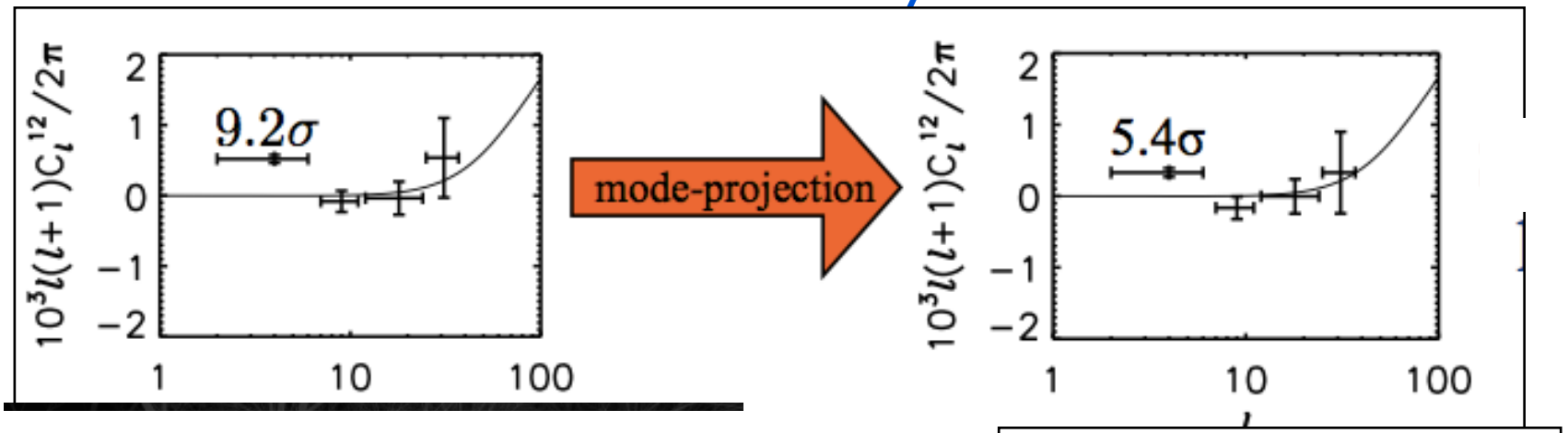
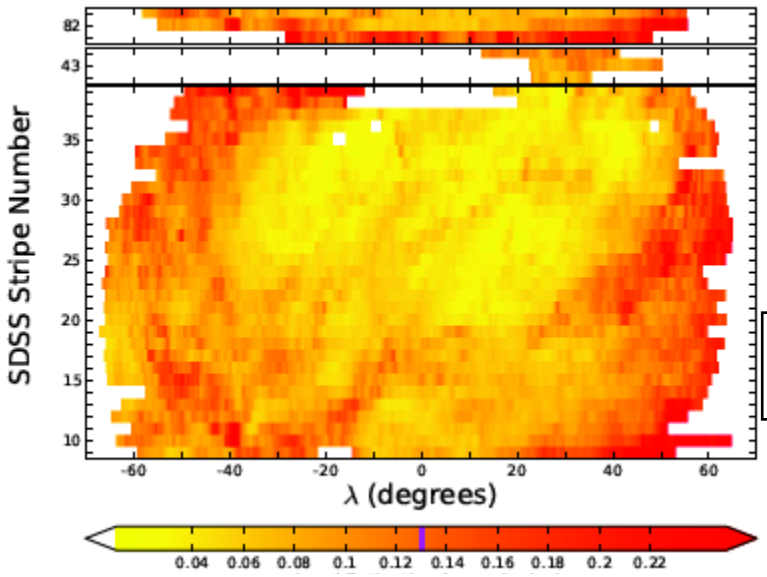
What have we done this year on these tasks ?

- Tools to remove known Systematics



Pullen + Hirata 2013

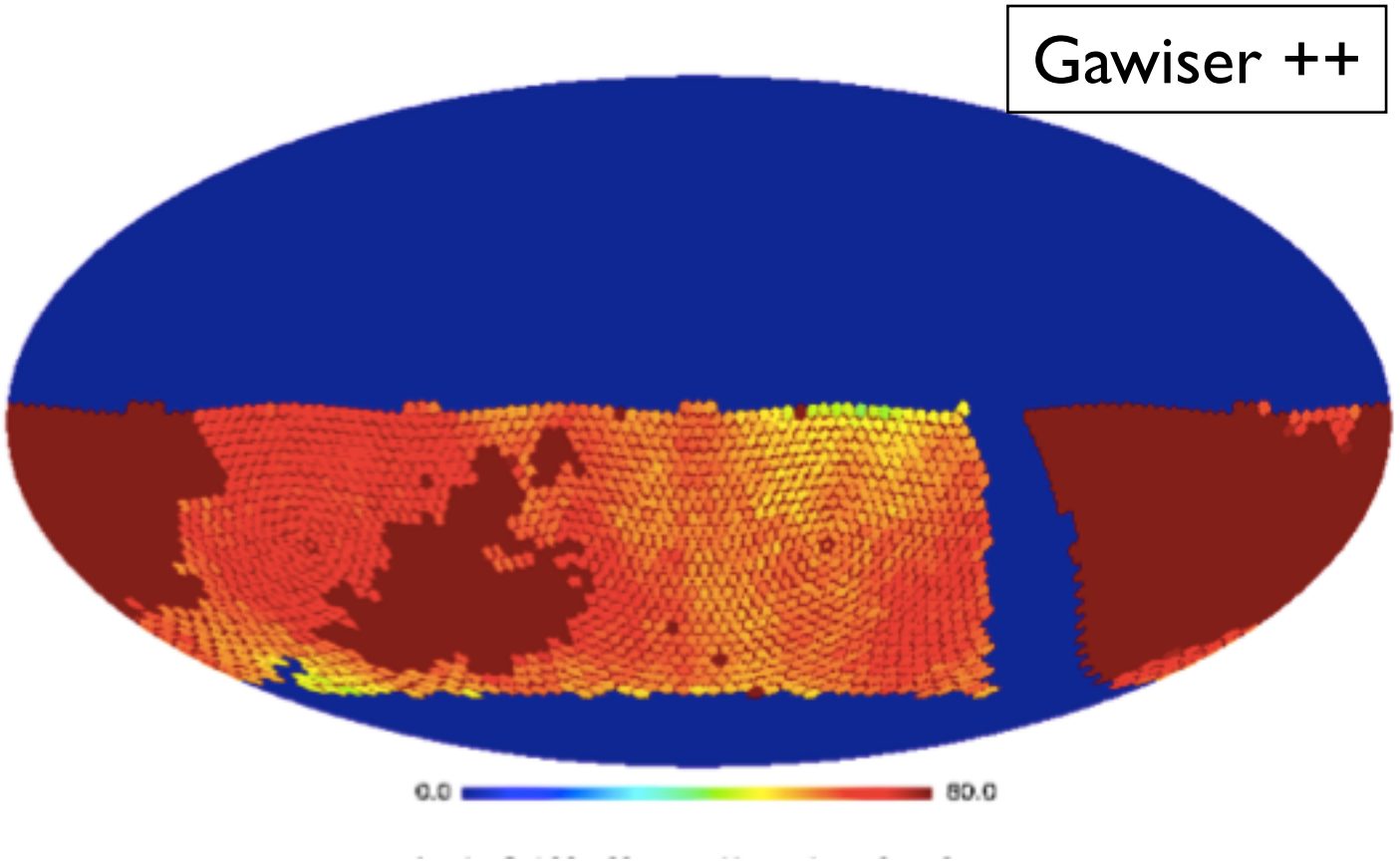
with OpSim



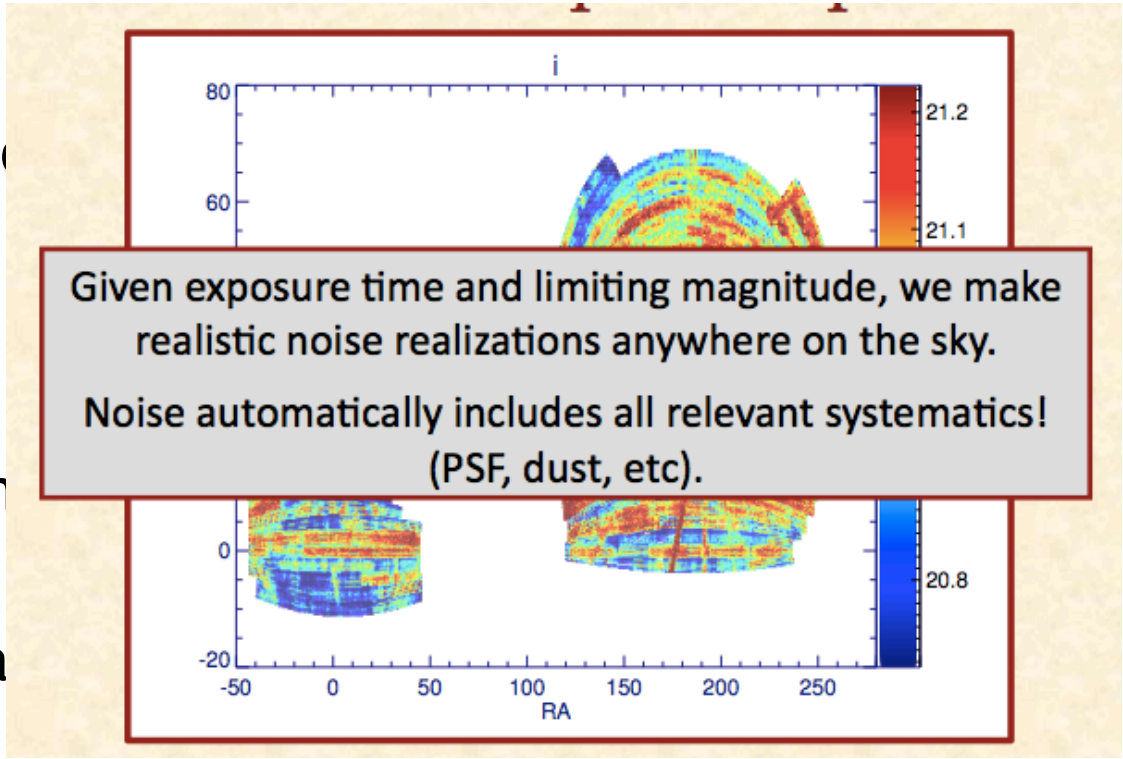
Matias + UIUC group

What have we done this year? on these tasks ?

- Tools to remove Unknown Systematics
- Analyze Image Simulations



What have we



- Tools to ren
- Analyze Ima
- Setting Requirements on Systematics

Rozo++

- Scalable LSS analysis software
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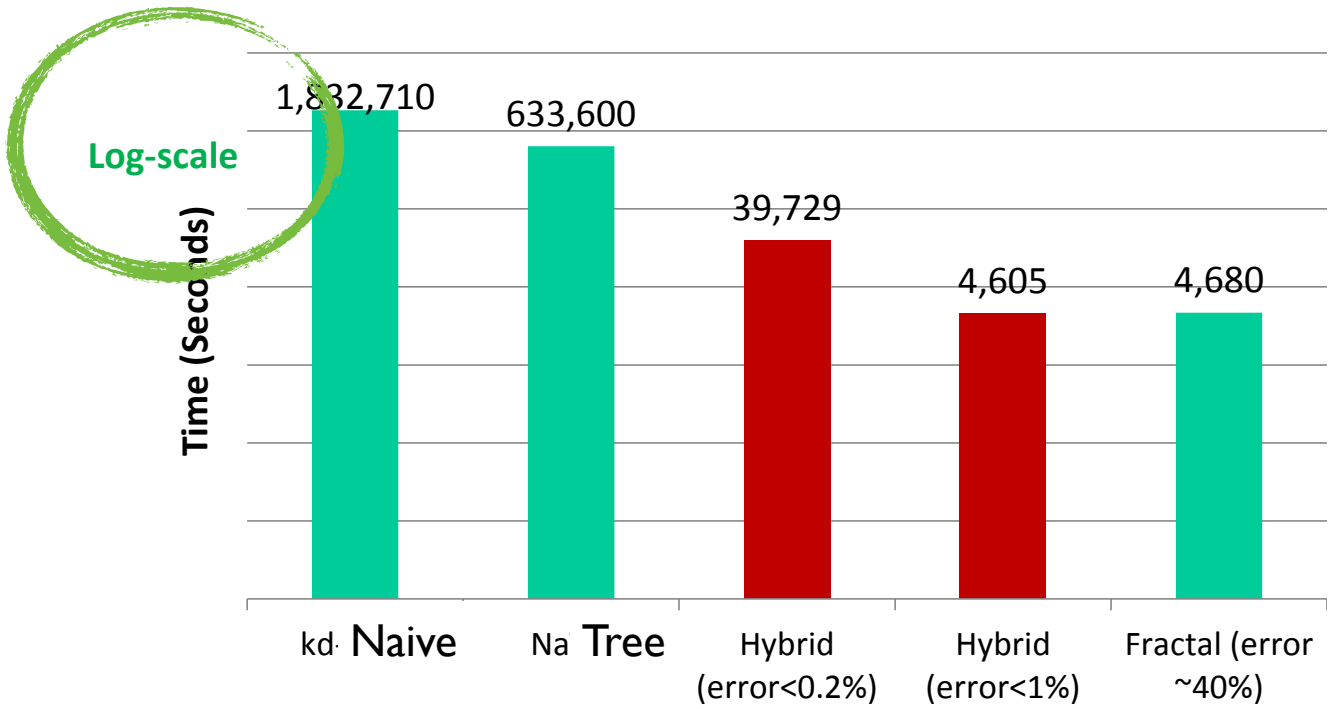
Hybrid Method = Sampling + kd-Tree

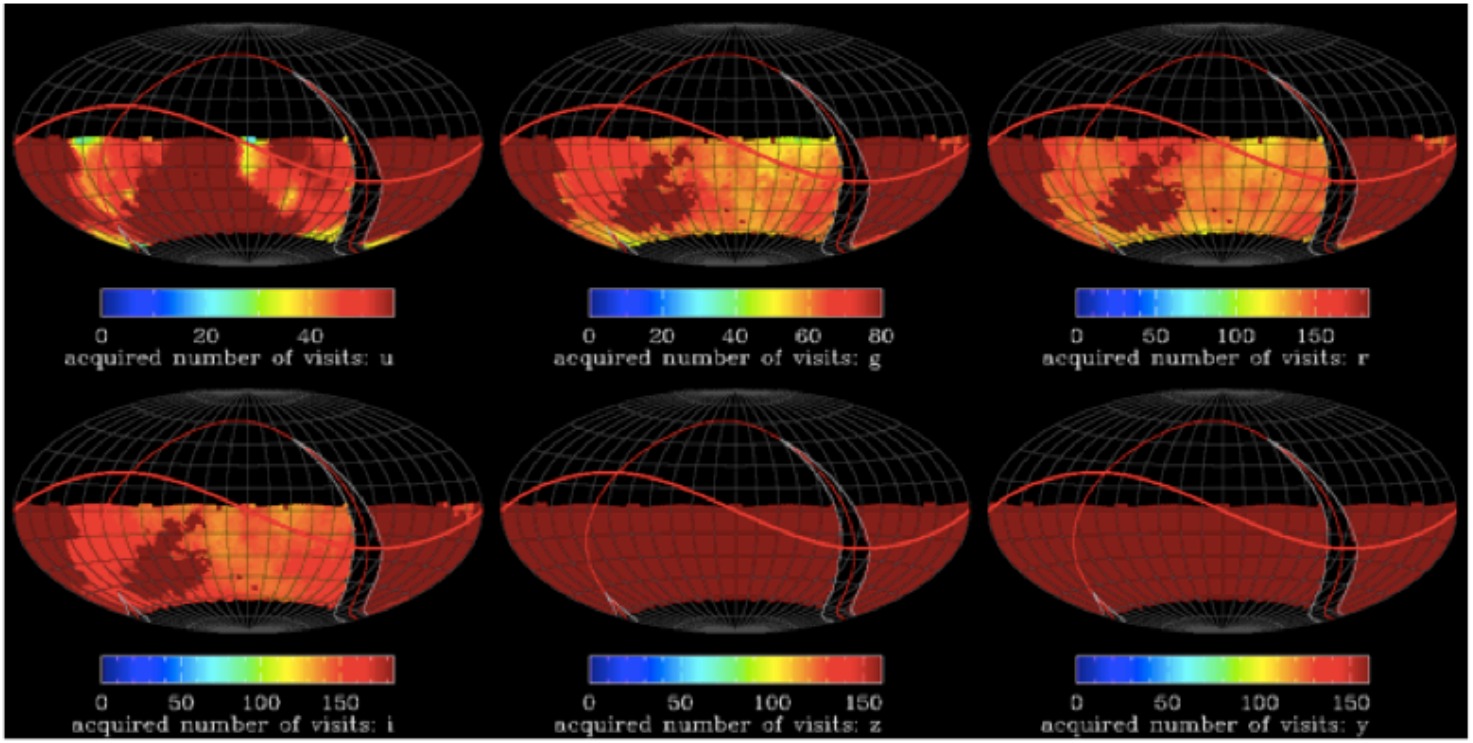
s ?



- Scalable LSS analysis software

Fu, S.H.+ CMU CS

- Full Sky simulations with OpSim
- Tools to Detect unknown systematics



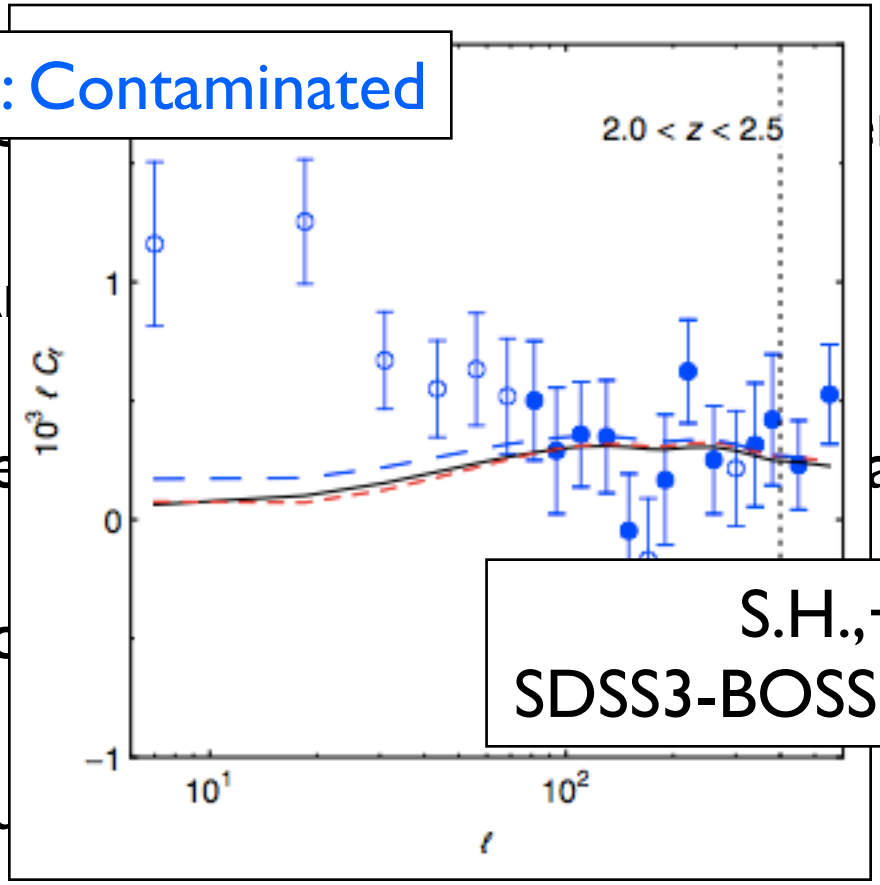
OpSim output shows number of visits (≈depth^2) for LSST pointings centered on hexagonal tiling of the sky

Gawiser++

- Full Sky simulations with OpSim
- Tools to Detect unknown systematics

What have we done this year? on these tasks ?

open circles: Contaminated



S.H.,+ Agarwal +
SDSS3-BOSS collaboration, 2013

- A… …matics
- Se… …atics
- Sc…
- Fu…
- Tools to Detect unknown systematics

- Other cool things we discovered in the LSS++ meeting:
  - Systematics in observations that affects photo-z and LSS ?
  - Should analyze the soon-available LSST DM-stack of Stripe 82 to test our photo-z, clustering-z, systematic-removal, systematic-detection algorithms
  - Use HOD-emulator ! (talk to Juliana Kwan)
  - Many machine learning algorithms applied to various problems: ranging from photo-z, systematics to simulation generations (talk to Matias Kind / me)

Please contact us if you're interested in working on Large-Scale Structure

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