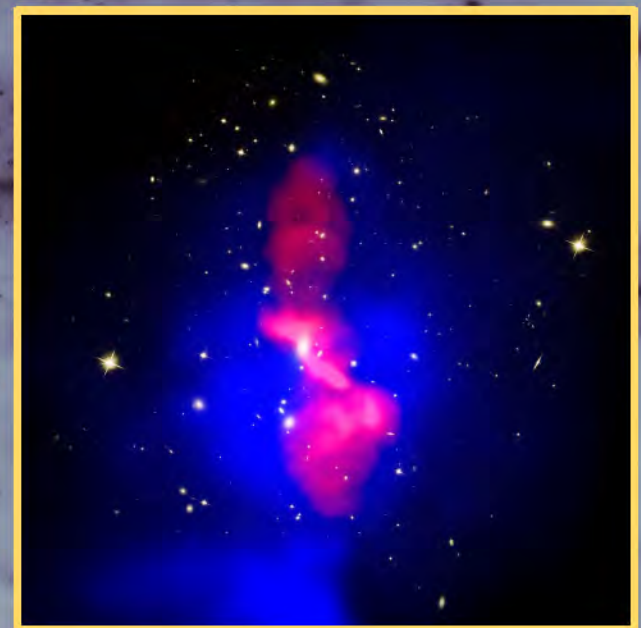
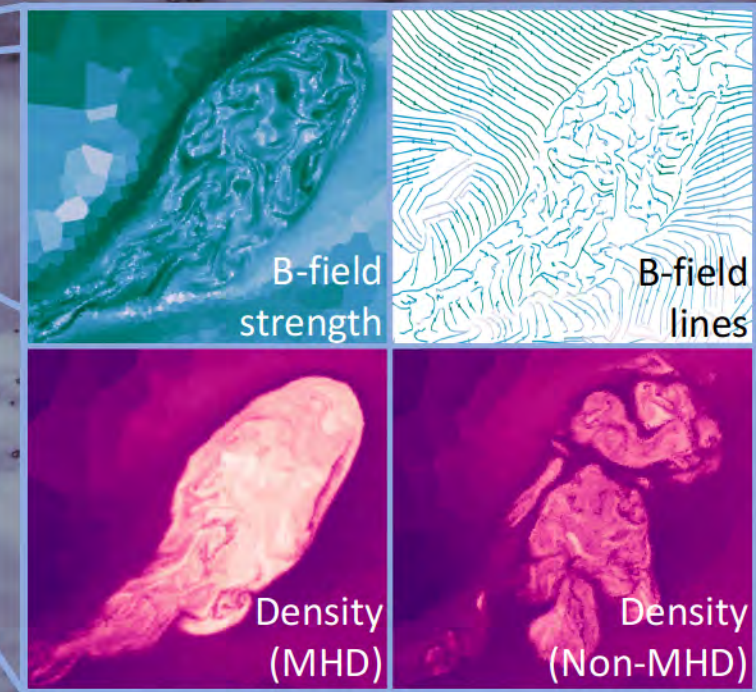
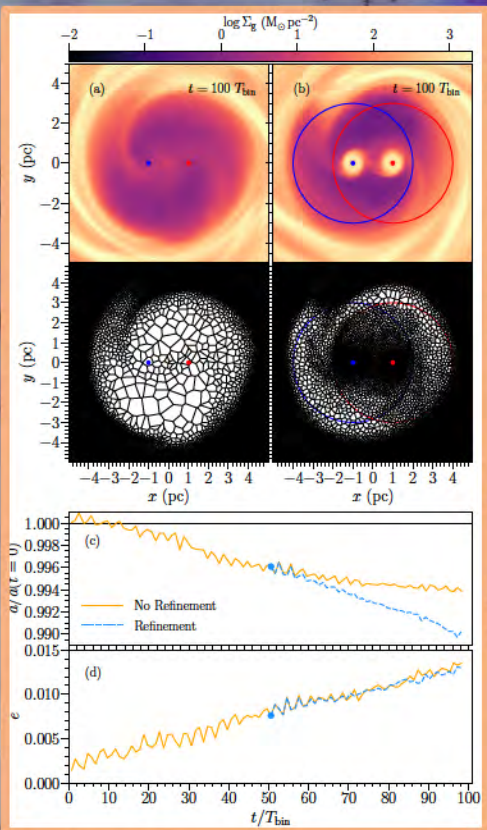


The simulation of SMBHs and things they like to do

Martin Bourne

A new/old postdoc



1. How do SMBHs grow?
2. How do SMBHs impact their environments near and far?

Current work:

- 21cm Radio Cosmology
- REACH low-frequency radio antenna
- Currently analysing the effects of calibration residuals on the data pipeline



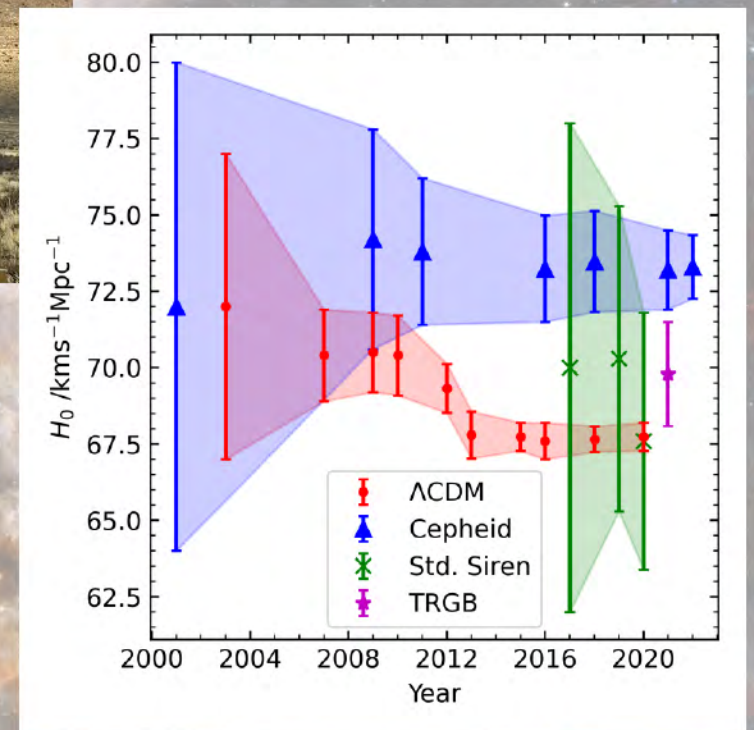
Christian Kirkham

1st Year PhD Student

Supervised by Eloy de Lera Acedo

Previous Work:

- Looked at systematics in the SH0ES method of calibrating the Hubble constant
- Used open clusters to identify systematic biases in Gaia data
- UVB photometry and MS fitting suggests galactic reddening may be an extra source of uncertainty



Joe Pattison

1st Year PhD Student

Emitter of a powerful computer destroying aura

Not available for children's parties

Email: jhnp2@cam.ac.uk

What I Did:

Generally: Space Dust

Specifically: Dust in space

Very Specifically:

- Investigating how different extragalactic dust mapping methods disagreed with one another for different galaxies

Also: Cataclysmic Variables



REACH



What I Do:

Generally: 21cm Cosmology data analysis using the REACH pipeline

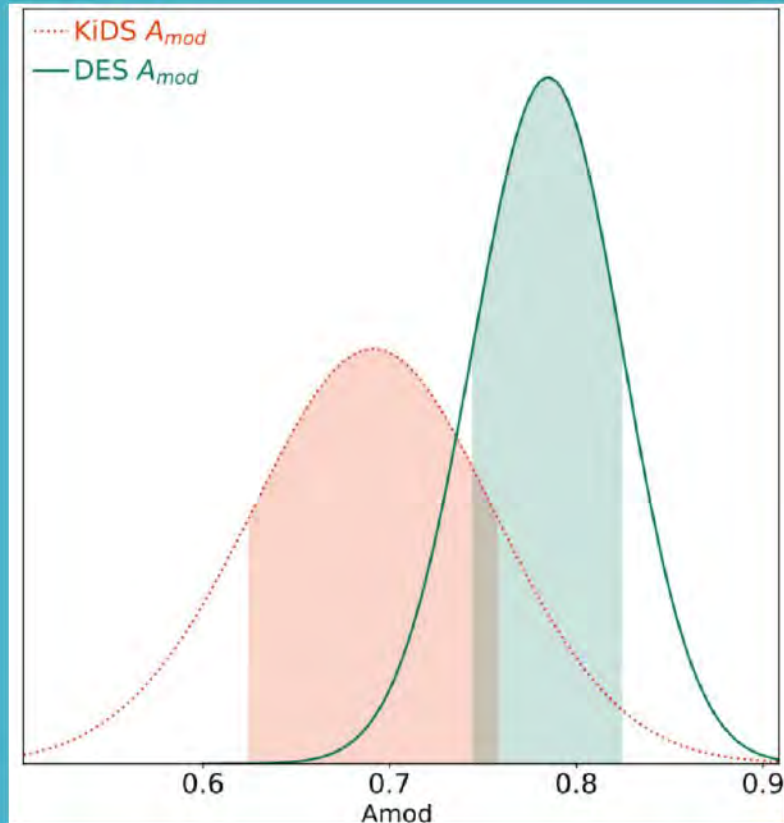
Specifically: Investigate horizon and ground effects on the detection of the 21cm signal

Very Specifically:

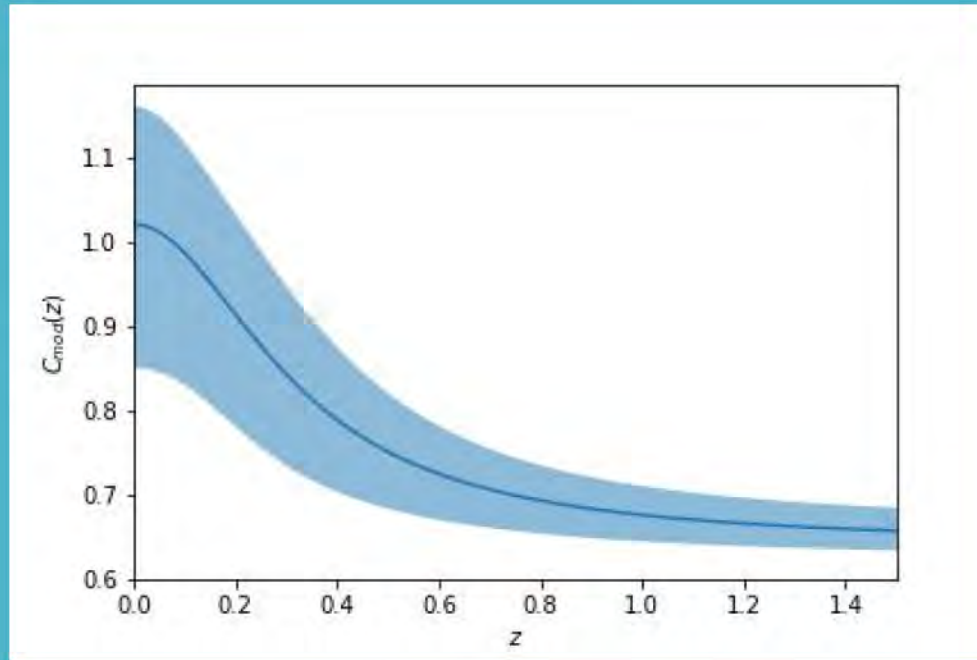
- Inexplicably break code
- Write more code
- Panic when code doesn't work
- Panic more when code does work
- Make bad acronyms

Calvin Preston – 1st year IoA/Kavli PhD

Analysis of power suppression on non-linear scales with DES data, comparing to previous constraints by Alex and George from KiDS:



Working on a modified growth of structure model with DES, as a solution to the S8 tension



Investigating the **redshift dependence** of their parameter that suppresses the matter power spectrum on non-linear scales!

Supervisors: Dr Alexandra Amon, Prof George Efstathiou and Prof Anthony Challinor



A member of the Dark Energy Survey!



Leah Bigwood

First year PhD (IoA)

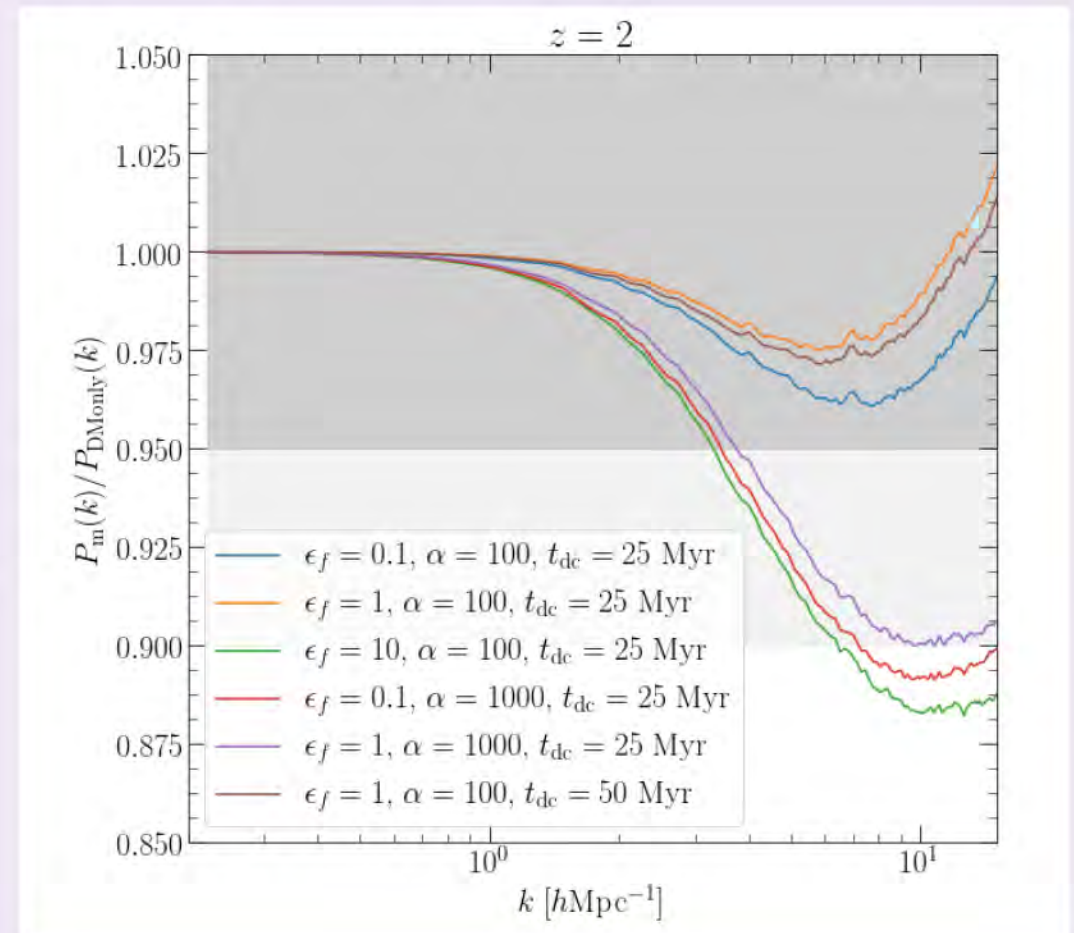
Supervisors: Professor Debora Sijacki & Dr. Alexandra Amon

Research interests:

The suppression of the matter power spectrum due to baryonic feedback

- Modifying the extremity of AGN feedback in FABLE with redshift
- DES x ACT

Previously a member of the DESI Bright Galaxy Survey



Dávid Puskás

1st Year PhD Student (KICC, Cavendish Laboratory)

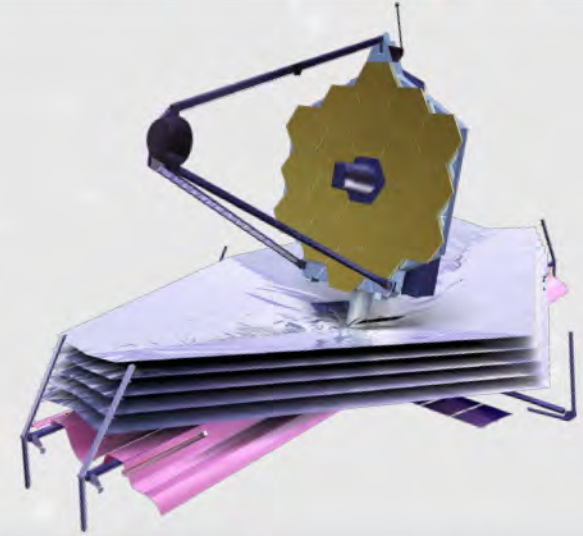
Supervisor: Sandro Tacchella

Research interests:

- Galaxy formation and evolution
- Major galaxy mergers at $3 < z < 9$
- Member of JADES – JWST NIRCам GTO

Previous work:

- Ages and SFH of $z \sim 6-7$ galaxies
- SED fitting with BAGPIPES
- Hubble and Spitzer photometry



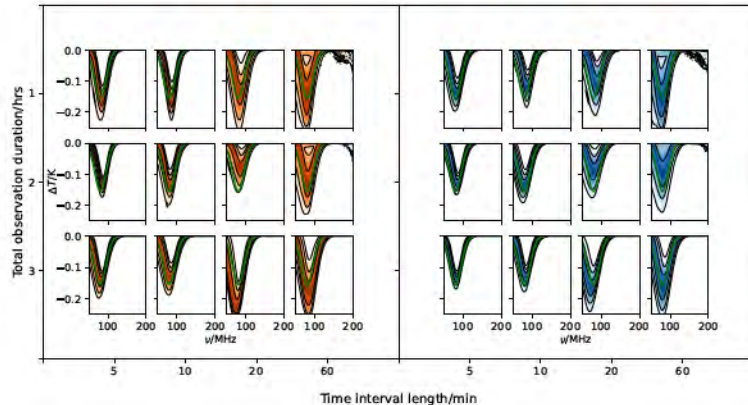
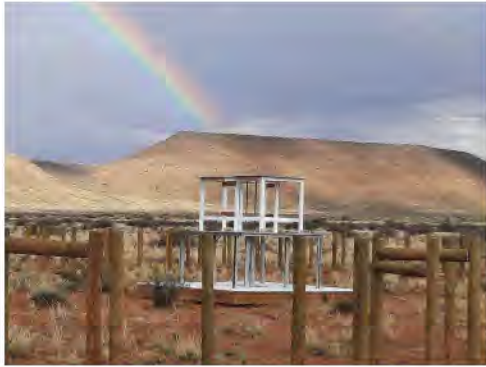
Messier 51 – Sky-Watcher Newton 254/1200, EQ6 Pro, Canon EOS 6D Mark II, ISO 6400, 123×30 sec (Romania, 23/04/2020)

Dominic Anstey

Postdoctoral Research Associate

da401@cam.ac.uk – Battcock Centre F18

https://arxiv.org/a/anstey_d_1



Research Interests:

Radio Cosmology, 21cm Cosmology, Cosmic Dawn and Epoch of Reionisation, Data Analysis Techniques, Bayesian Statistics

Projects:

- Radio Experiment for the Analysis of Cosmic Hydrogen (REACH):
Developing Bayesian data analysis methods and writing software pipeline



- Square Kilometre Array (SKA):
Simulations of observations to assess the impacts of systematics from antenna design



Harry Bevins

Supervised by Eloy de Lera Acedo, Anastasia Fialkov and Will Handley

4th Year PhD Student

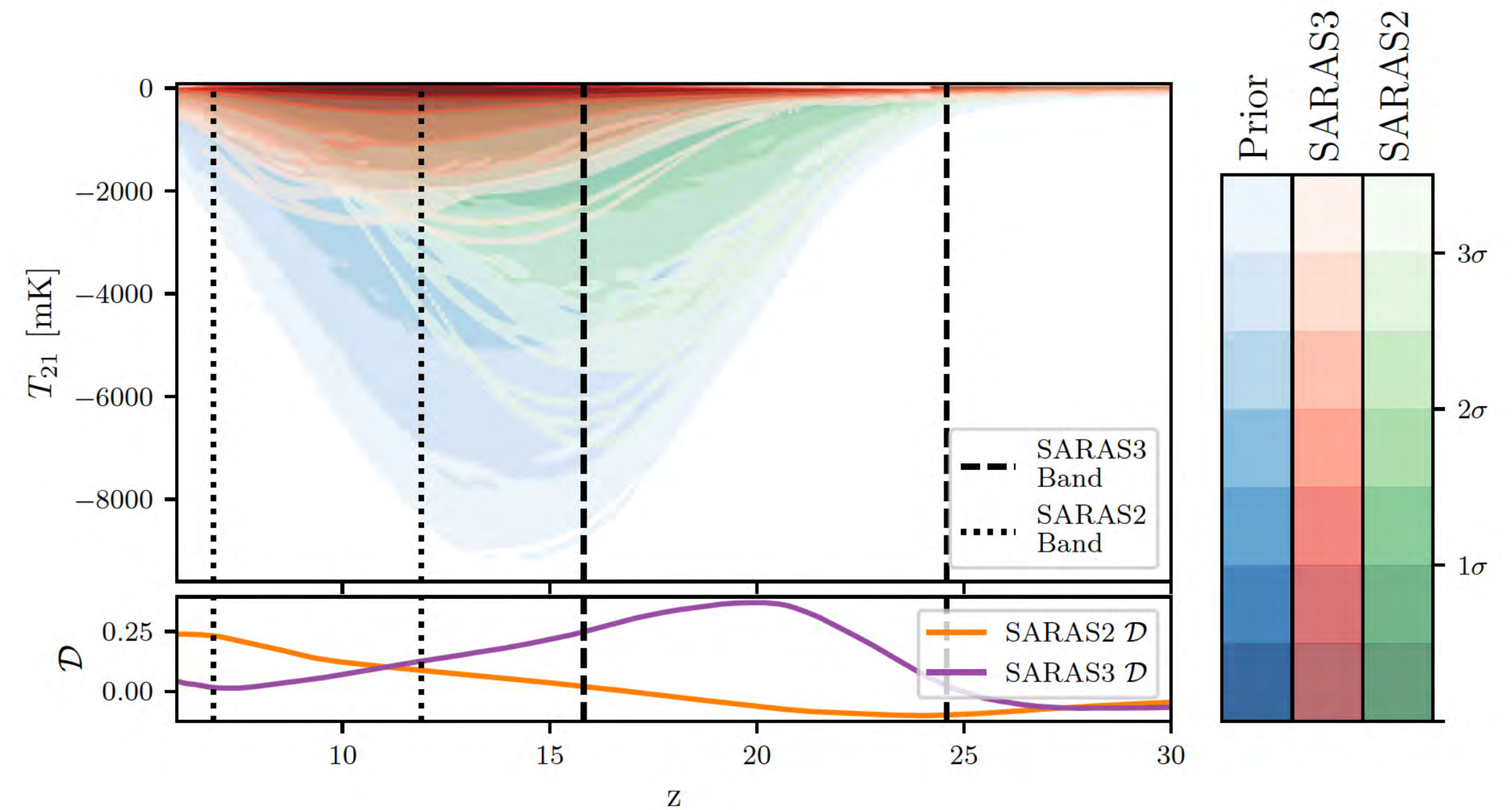
F18 in Battcock Center - htjb2@cam.ac.uk

Research Interests: Radio Cosmology, Cosmic Dawn, Epoch of Reionization, Bayesian Analysis and Machine Learning

Projects: Signal emulation (globalemu), “Maximally Smooth Function” fitting (maxsmooth), marginal Bayesian statistics with normalising flows (margarine), cosmological inference from 21-cm experimental data

Papers: arxiv.org/a/bevins_h_1

Github: <https://github.com/htjb>



SARAS2



SARAS3



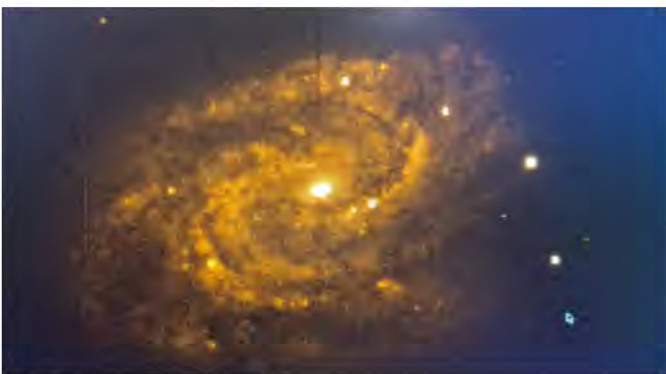
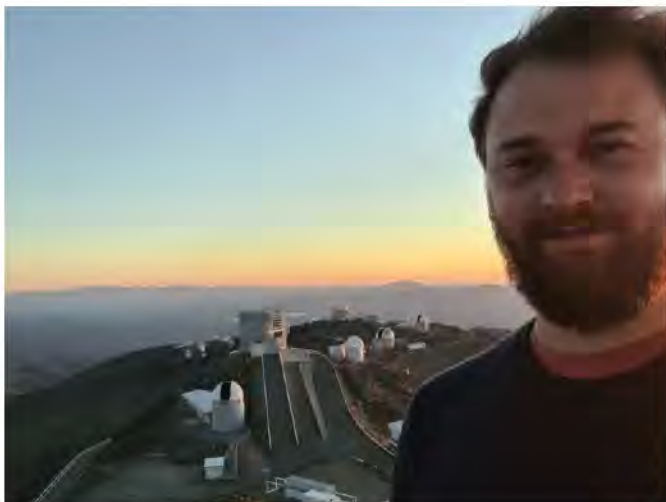
REACH

Matt Grayling

Postdoctoral Research Associate

Working with Kaisey Mandel

Kavli K08

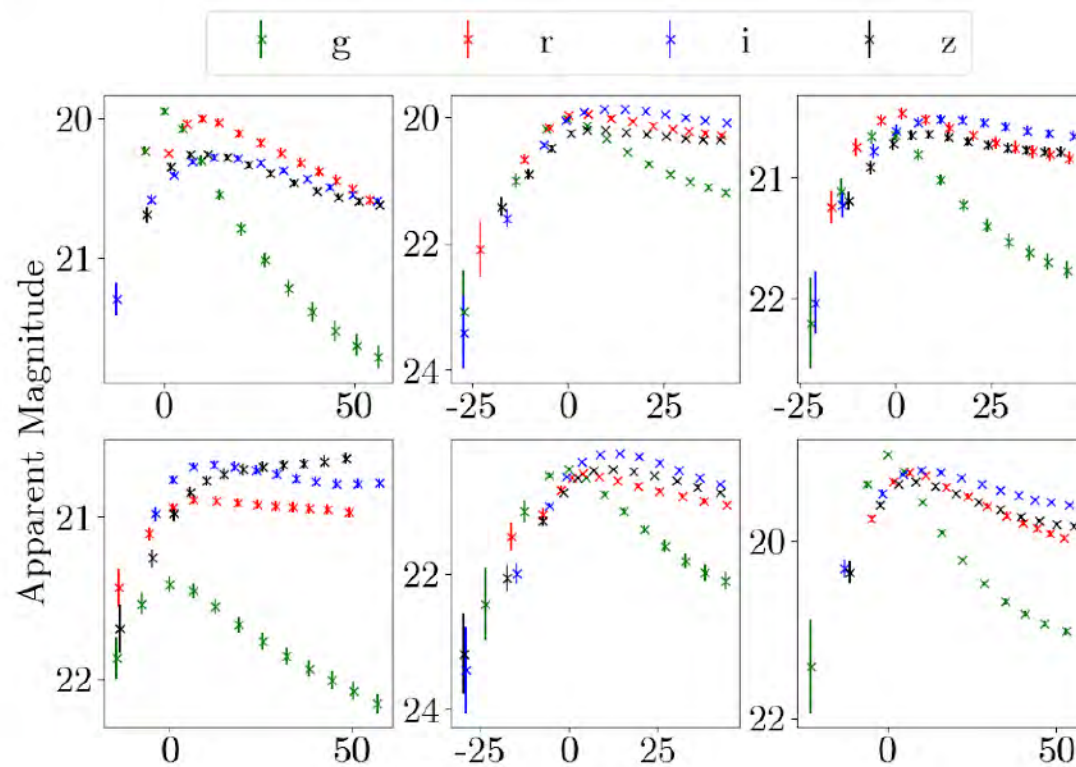


Current Projects:

- Assessing use of variational autoencoders within BayeSN (VAEyeSN) + speeding up MCMC using GPUs
- Using generative adversarial networks (GANs) to augment SN data sets

Research Interests:

- Supernova Astrophysics
- Cosmology
- Machine Learning



Collin Politsch

Postdoctoral Research Associate
Kavli K08, cp802@cam.ac.uk



Research Interests:

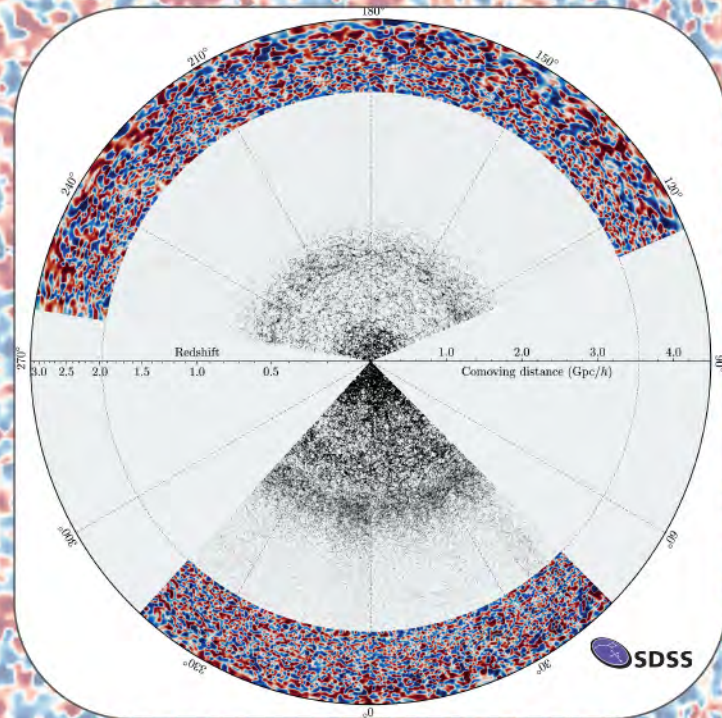
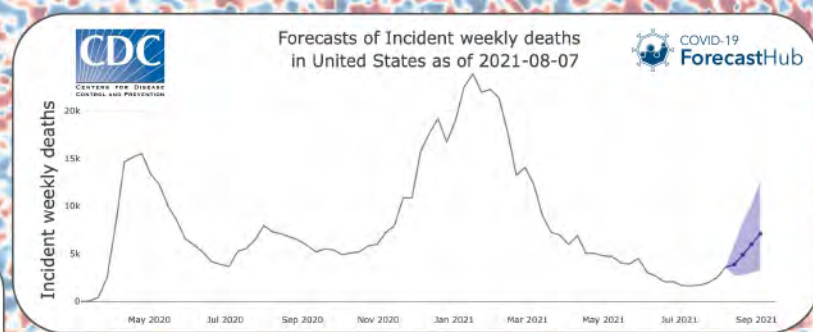
- Astrostatistics and astroinformatics
- Massive spatial/temporal data sets
- Uncertainty quantification
- Lyman-alpha forest tomography

Past work:

- Lyman-alpha forest tomography
- Model-independent denoising of spectra and LCs
- Covid-19 tracking and forecasting

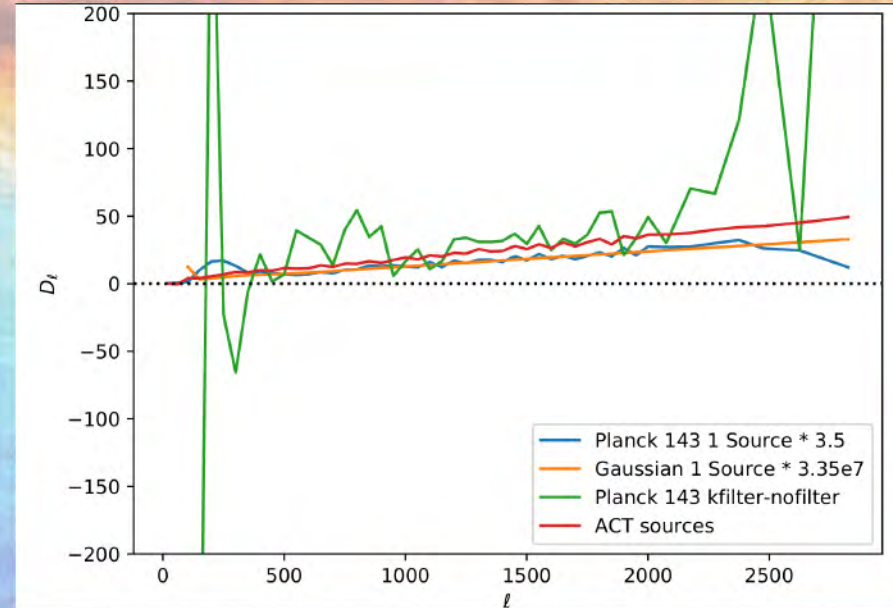
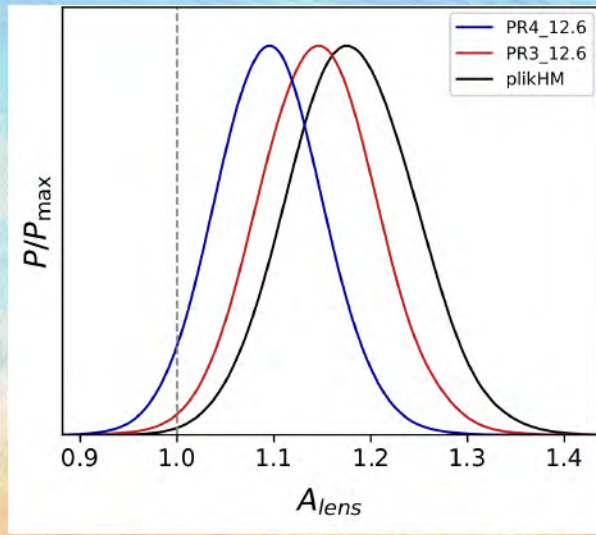
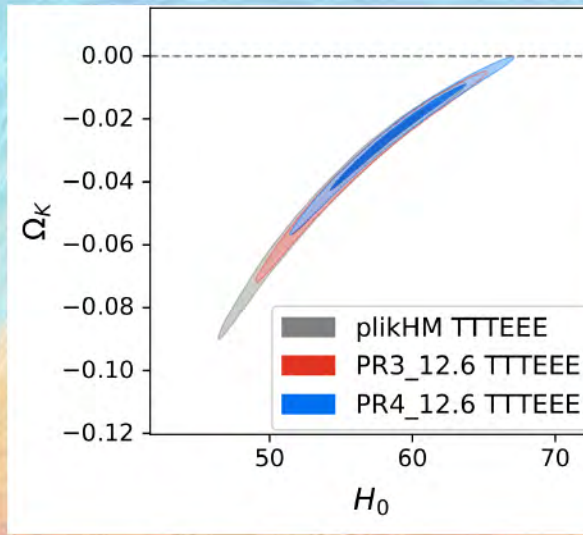
Current work:

- Fast methods for reconstructing Supernova SEDs
- Lyman-alpha forest tomography with SDSS and WEAVE. (DESI?)



Erik Rosenberg
4th year PhD, IoA
er510@cam.ac.uk
K26

Research – CMB Data Analysis
Cosmology from Planck PR4
Planck – ACT DR4 comparison
Simons Observatory





Big Bang

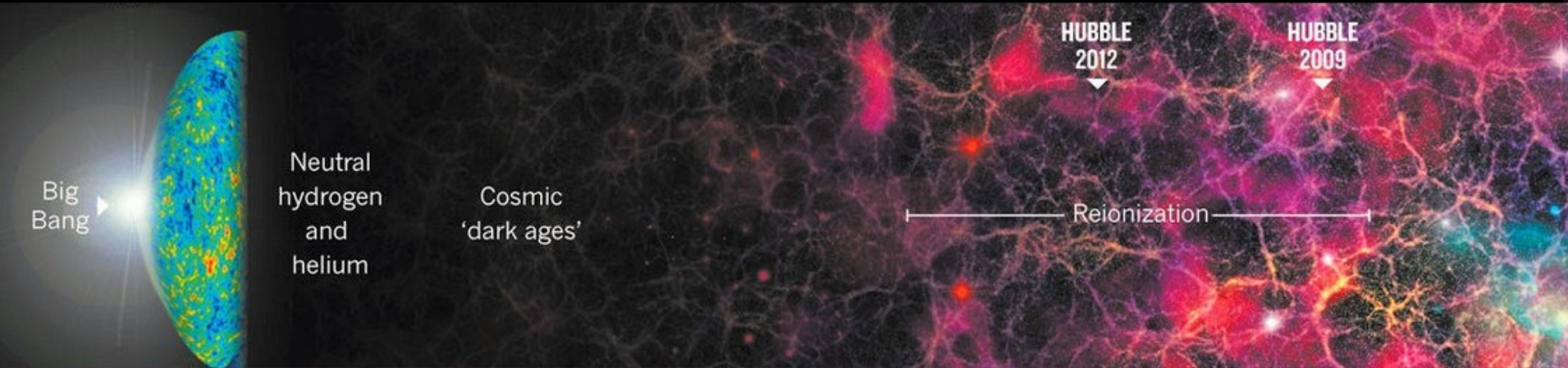
Neutral hydrogen and helium

Cosmic 'dark ages'

HUBBLE 2012

HUBBLE 2009

Reionization



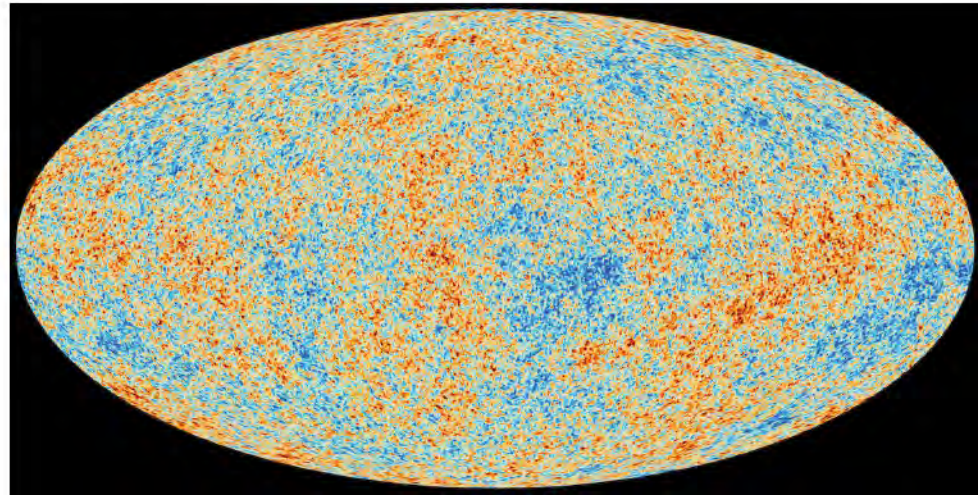
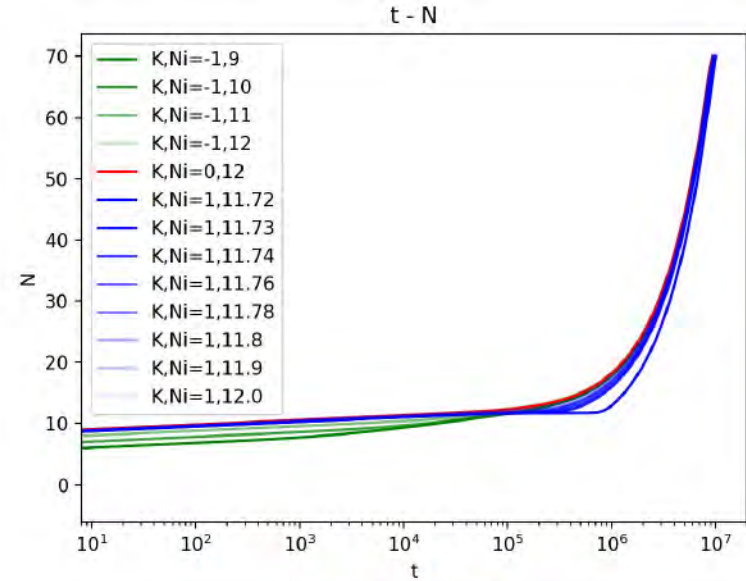
Wei-Ning Deng

1st year PhD, wnd22@cam.ac.uk

Research topic :

Inflation and early universe

- (1) The mechanism of inflation and how the universe evolve.
- (2) Initial condition and quantization of the inflation field
➡ Large scale structure of the universe.



Research is like climbing mountains



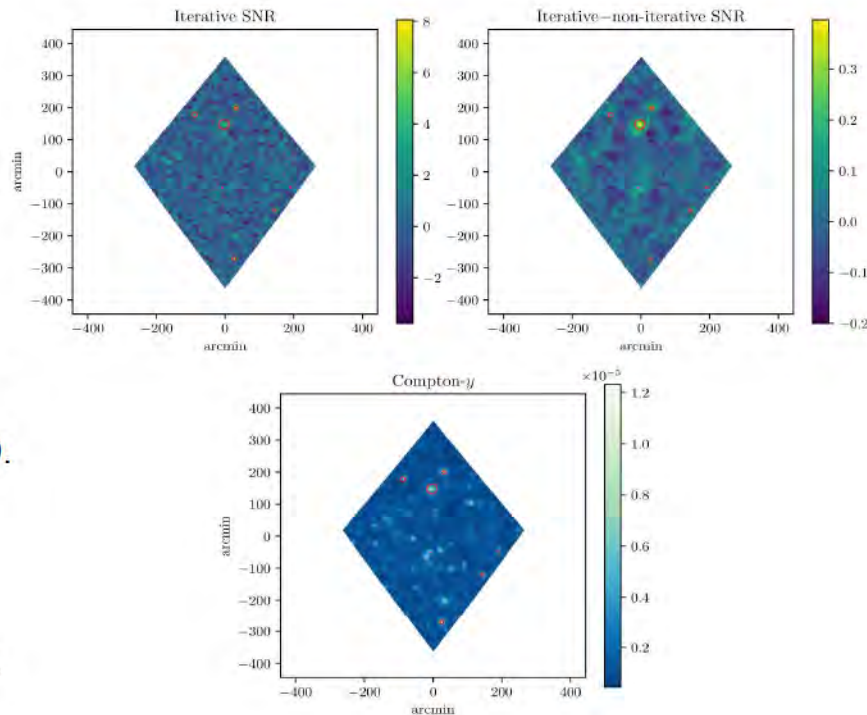
Íñigo Zubeldia

Postdoc at IoA/Kavli

Just moved from JBCA, Manchester

Galaxy cluster cosmology:

- Cluster detection using tSZ effect, **SZiFi** (Sunyaev-Zeldovich iterative Finder):
 - Novel features: **iterative covariance** estimation, foreground **deprojection**.
 - Being applied to *Planck* data, being tested for SO.
 - Goal: use it on SO data.
- Cluster CMB lensing:
 - How to best model cluster lensing signal (*Planck*, ACT), especially for mass calibration in cluster number count analysis.
 - Combination with galaxy weak lensing (+Naomi)



github.com/inigozubeldia/szifi