

SKA Data Challenge 3b

Inference

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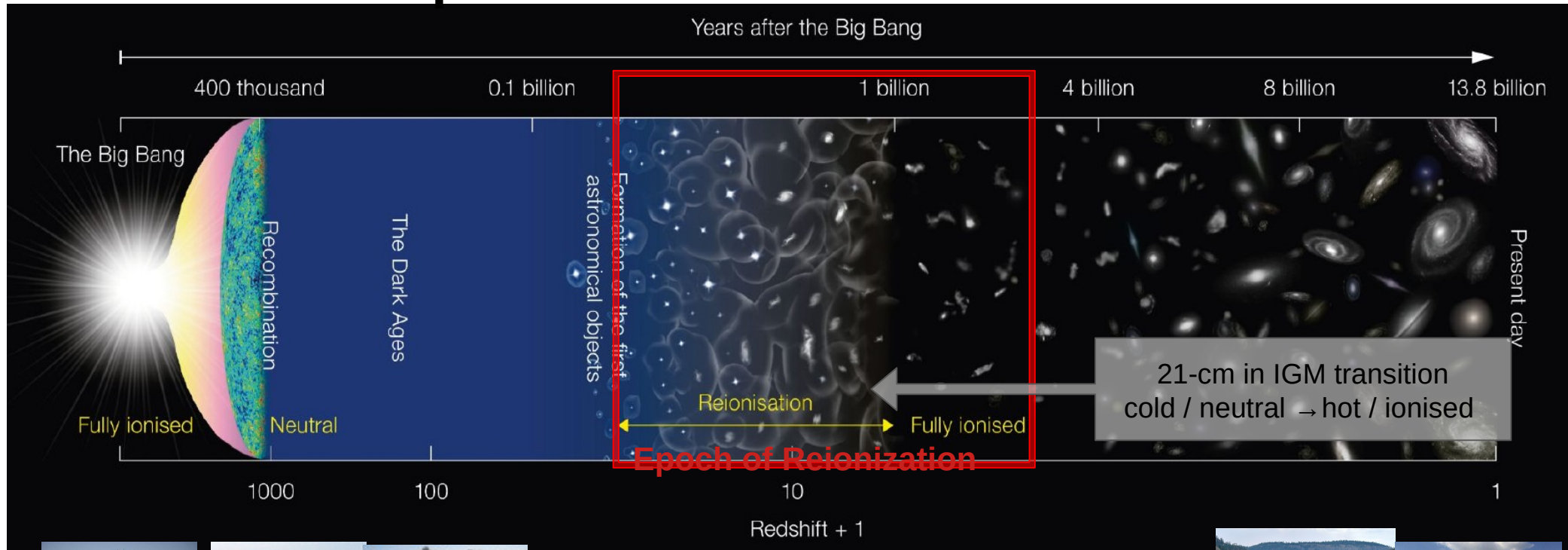




When it ends so that we can go to Aperero?



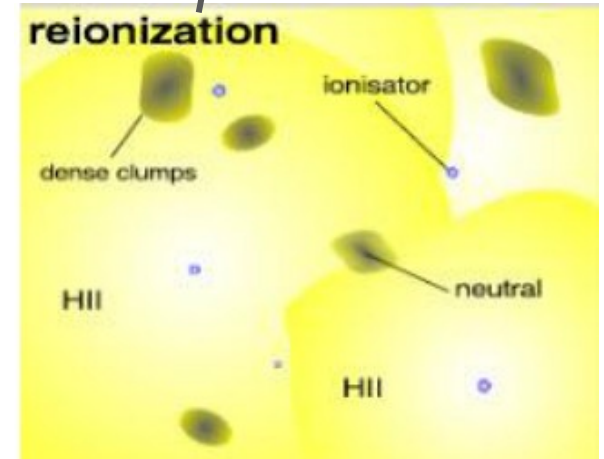
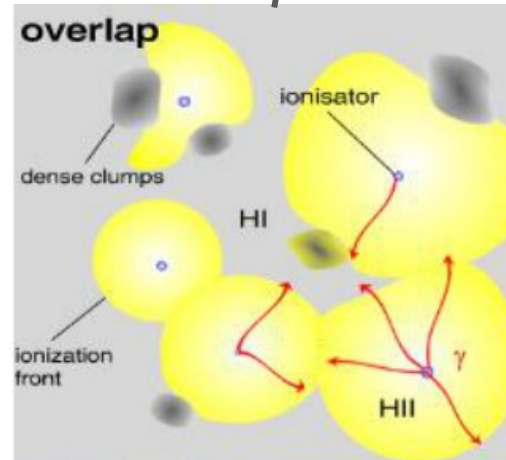
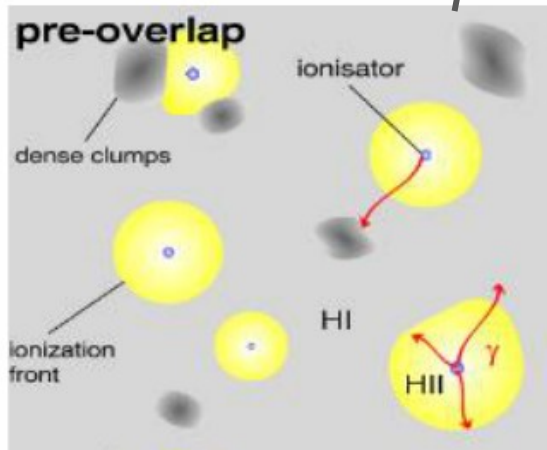
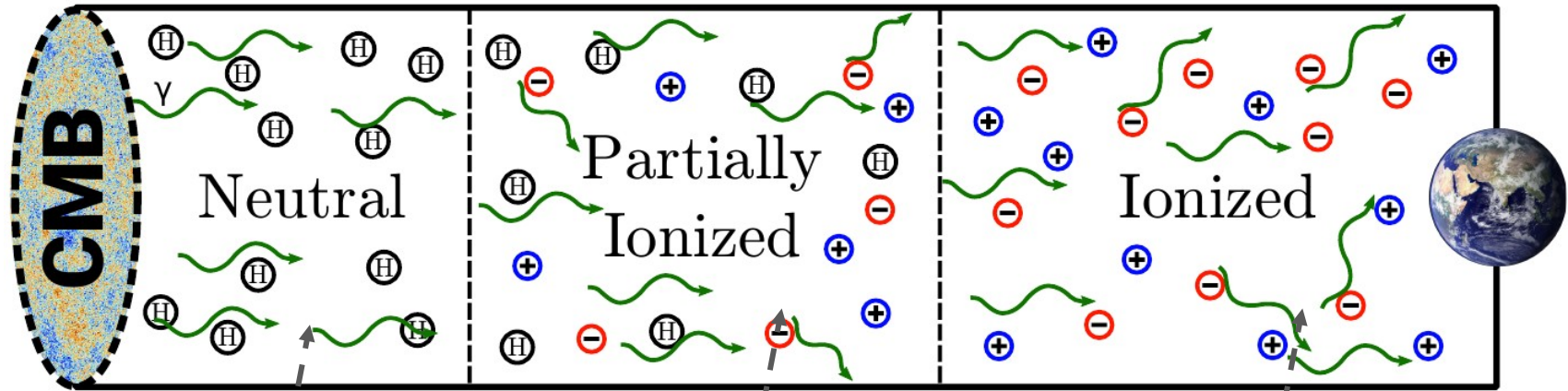
Epoch of Reionization



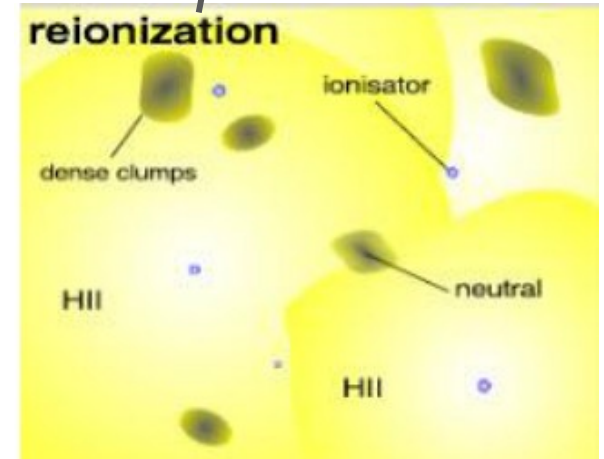
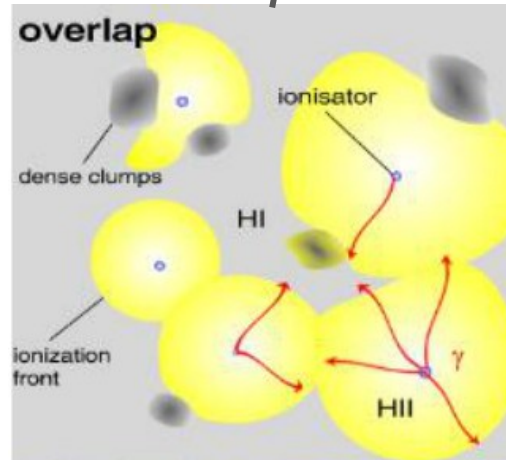
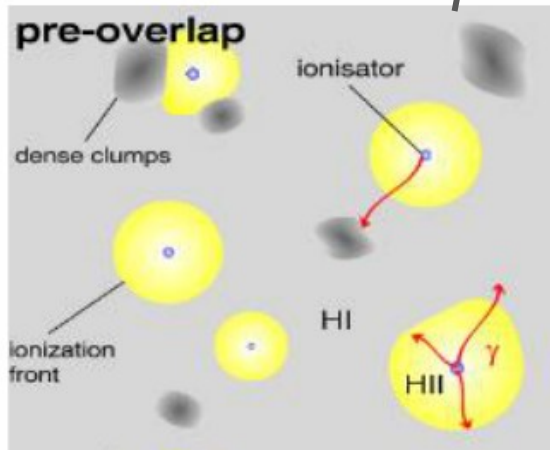
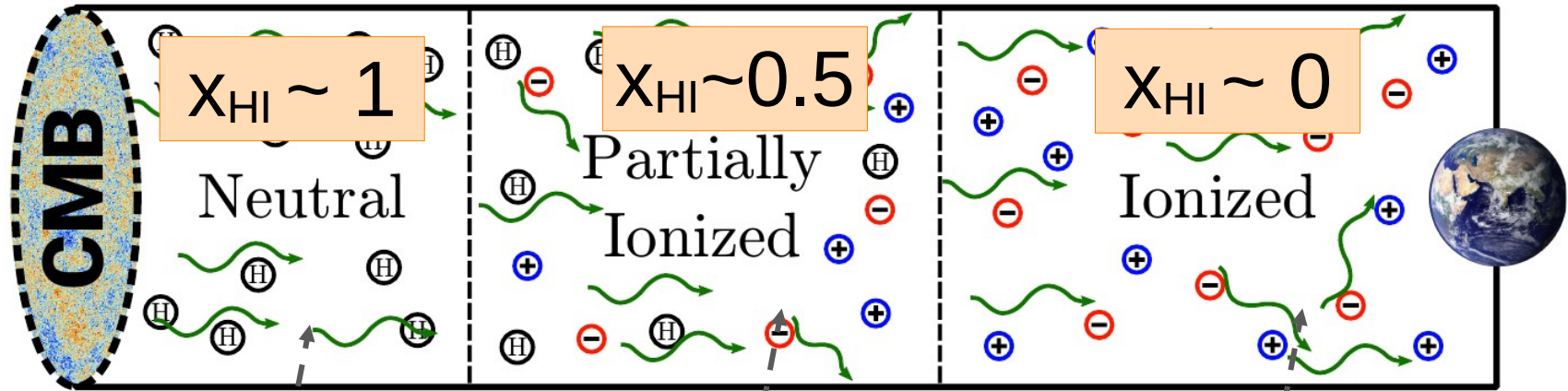
Radio Interferometry
experiment aim to provide new
cosmological constraints



Epoch of Reionization

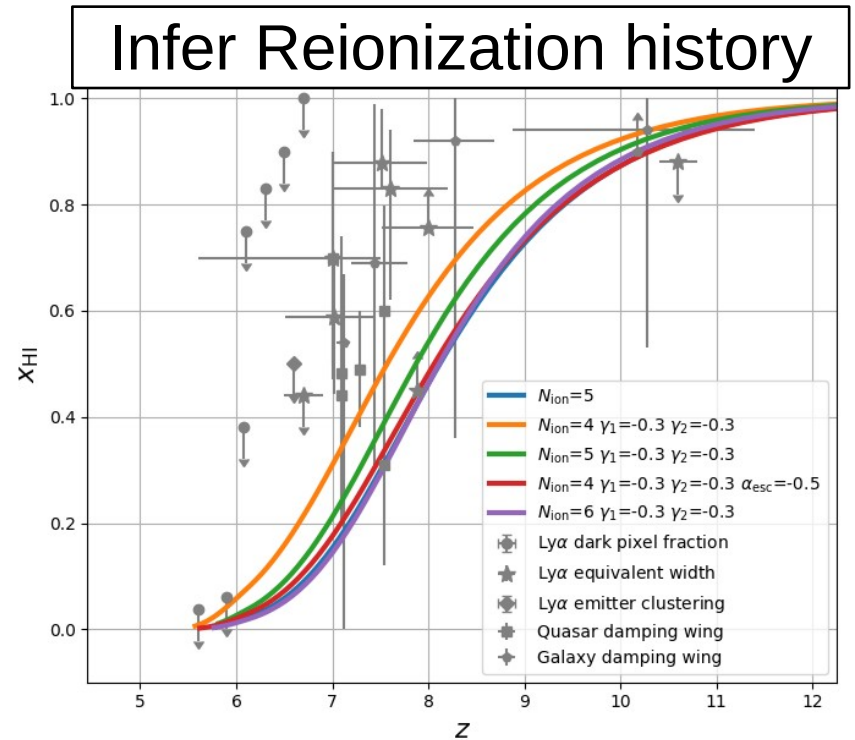
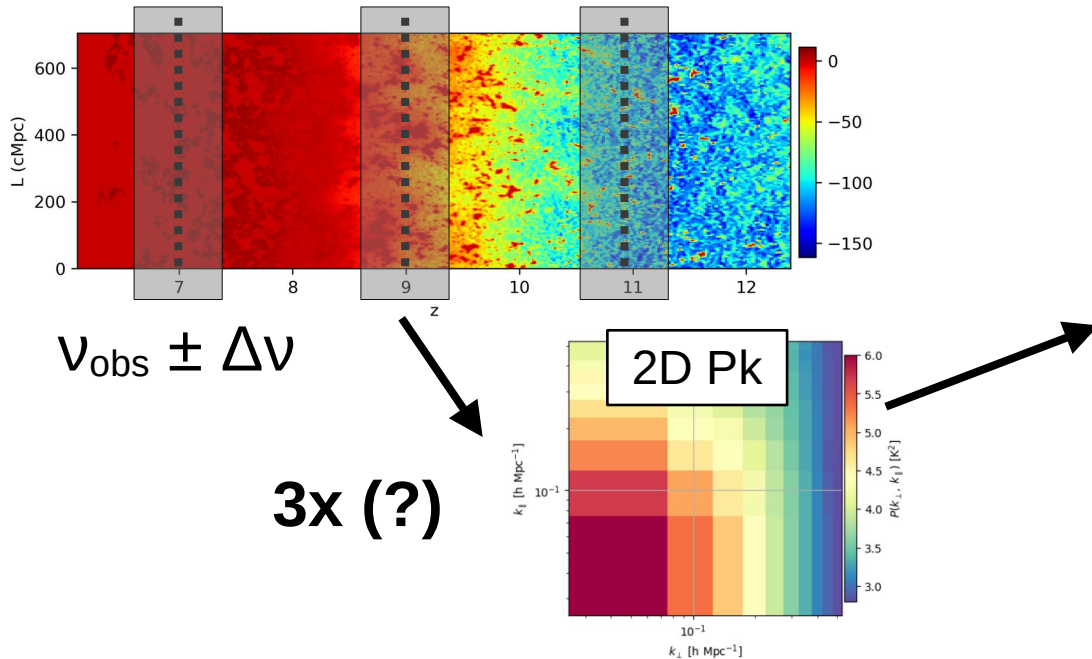


Epoch of Reionization

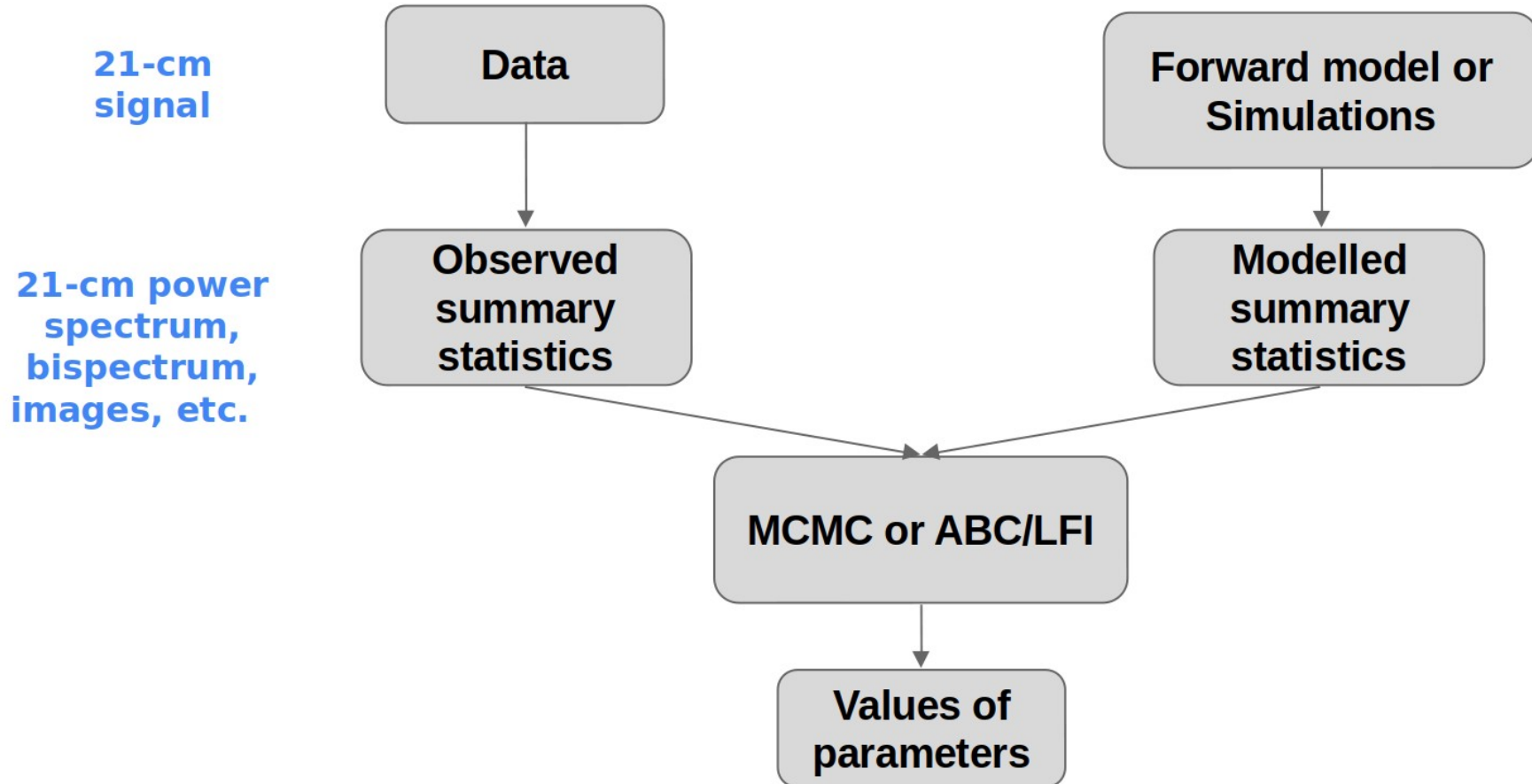


SDC3b Dataset

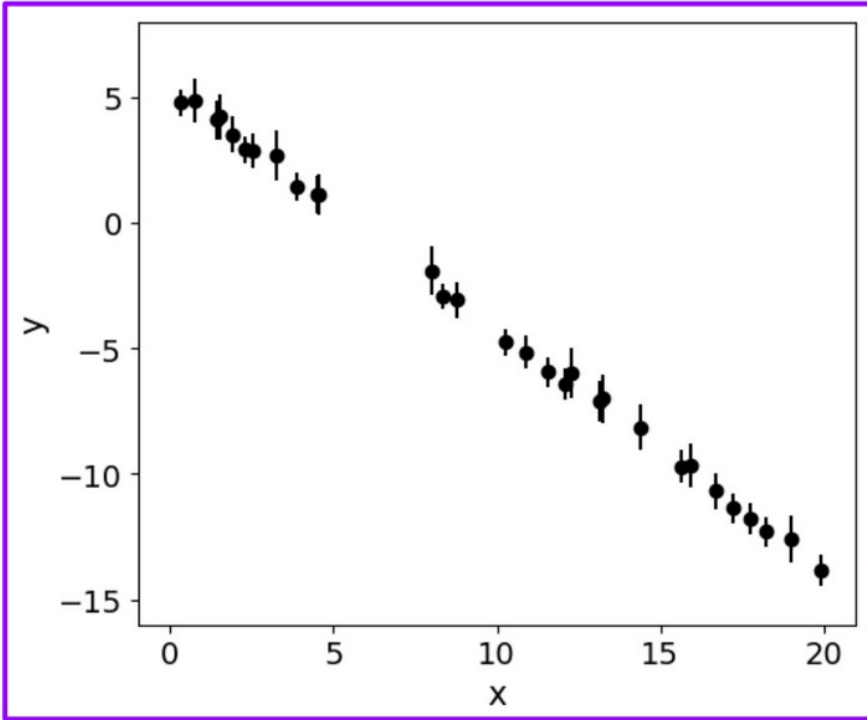
- 21-cm lightcone simulated with 2 code (with different approach)
- For each dataset 2 type of setup:
 - 21-cm with residual foreground & noise
 - just 21-cm signal



Interpretation Framework



Interpretation Framework

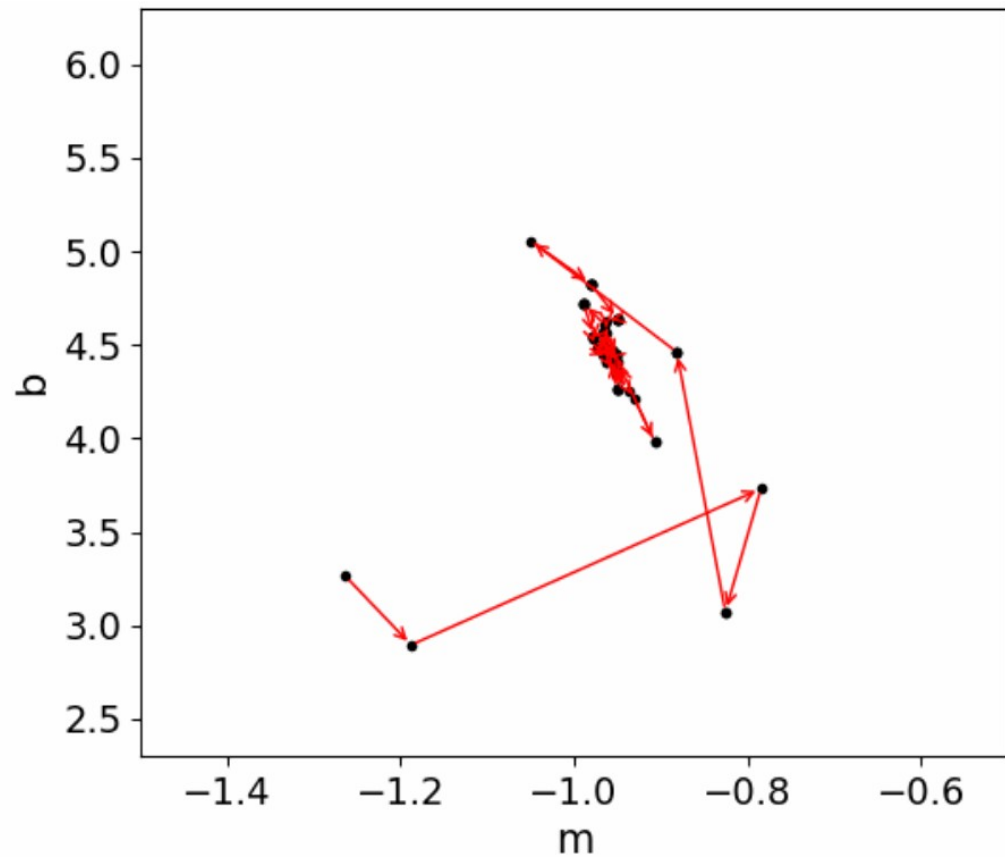
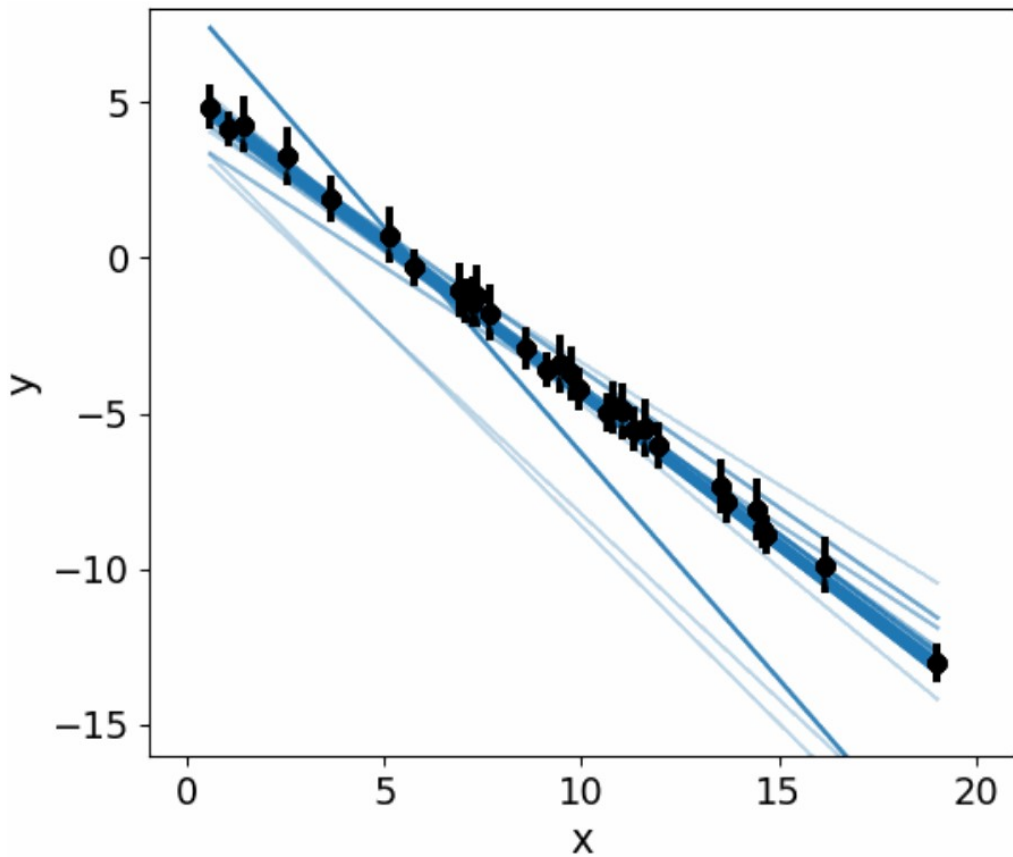


$$y = mx + b$$

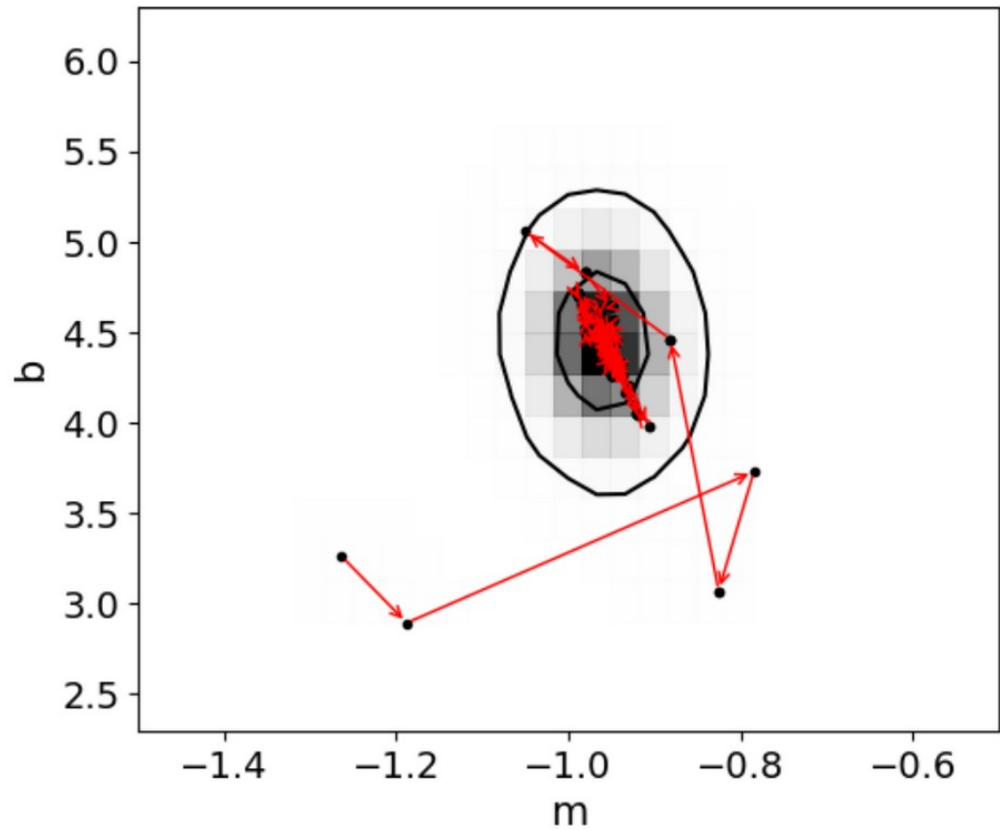
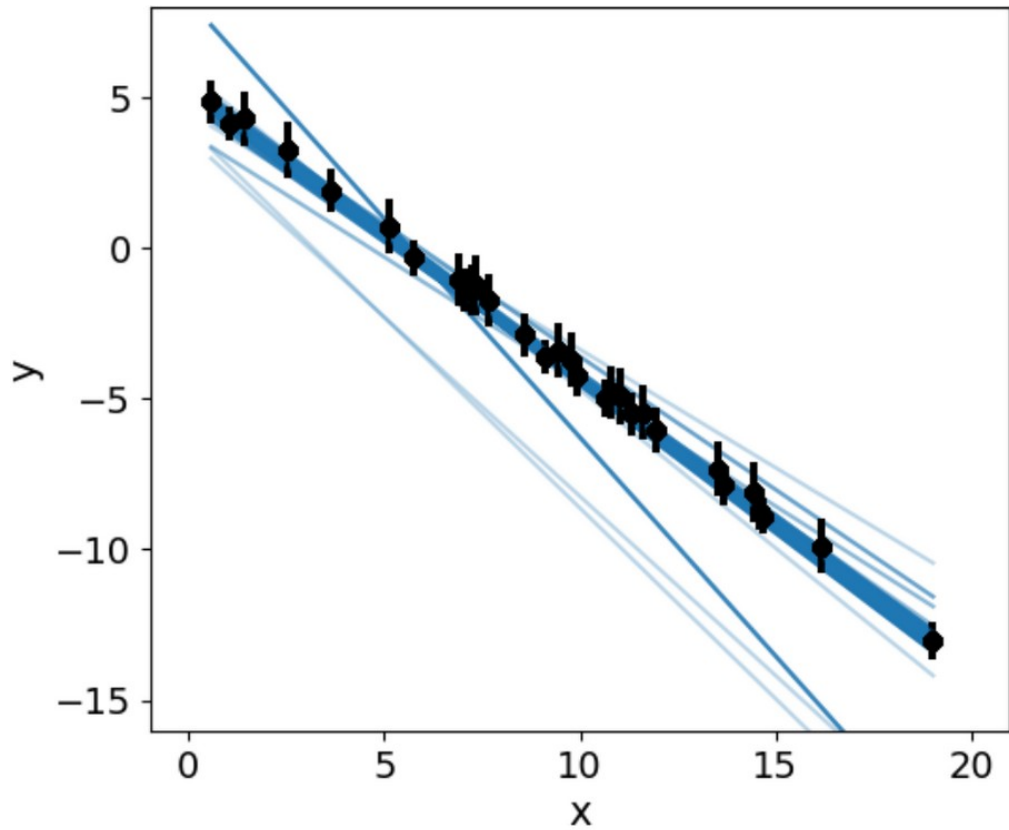
MCMC or ABC/LFI

Values of
parameters

Interpretation Framework



Interpretation Framework



The $SE_{ar}CH$ Team

Intent of participating with a group of colleagues from Sweden to **kick-start Sweden participation to SKAO** (2021)

CH and SE are the *newly arrived* at SKAO → join forces for SDC3b

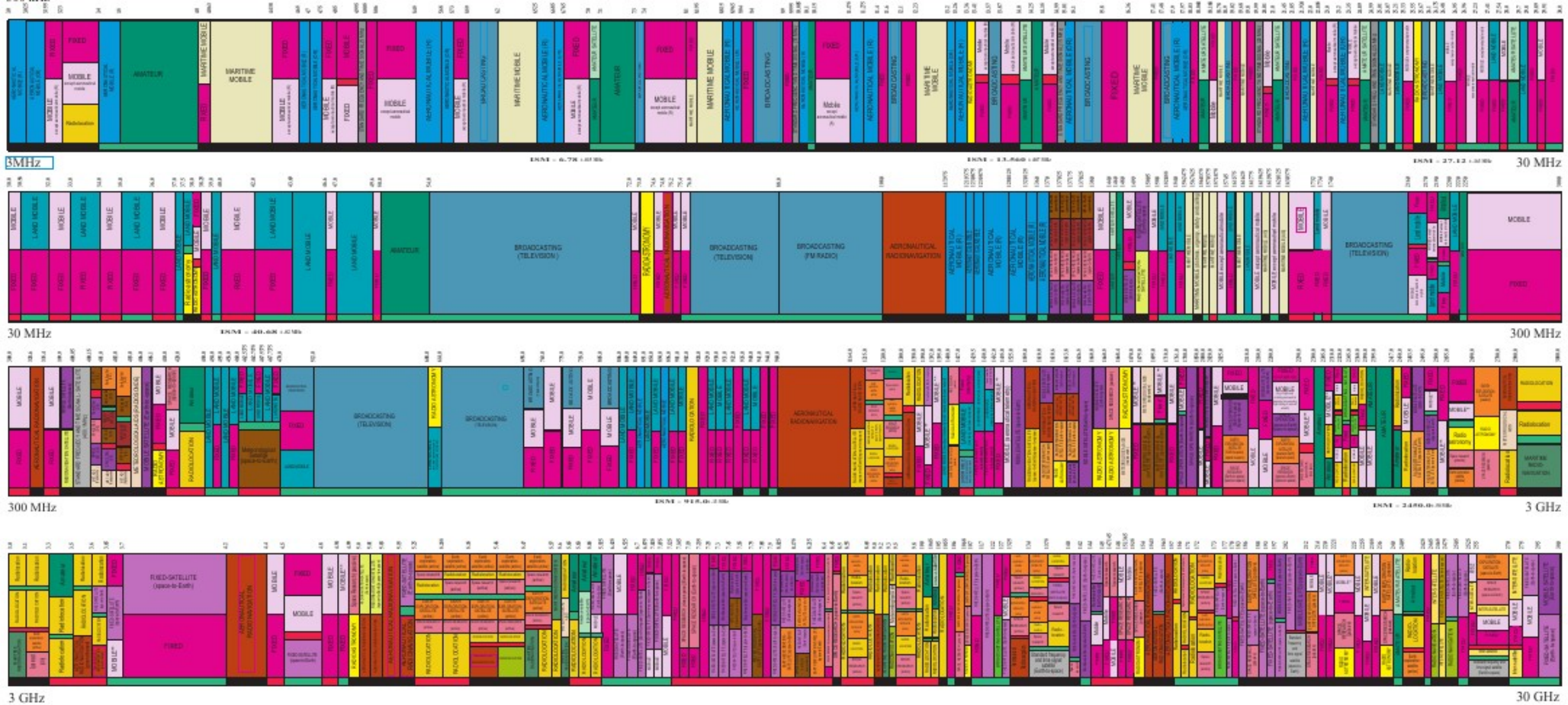
- Simulation Based Inference (SBI) method
 - Using the BEoRN code developed at UZH
 - Machine learning approach (NF, IMNN, ...)
- Another approach (TBD: MCMC)

Can SKACH contribute to Future SDC?

Interesting discussion during the last meeting SKACH meeting & and the recent at Cosmology in the Alps:

- with Simon and Dominique: the possibility of an RFI SDC?
- with Anna Bonaldi: SKAO is looking for idea for future

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Collaboration between engineer and
instrumental and for a RFI SDC ?