Contact

ali7amie@gmail.com

www.linkedin.com/in/ali7amie (LinkedIn)

ali7amie.wixsite.com/photography (Other)

Top Skills

Astrophysics & Cosmology

Digital Image Processing

Python (Programming Language)

Languages

French (Professional Working)

Arabic (Native or Bilingual)

English (Professional Working)

Ali Hamie

Space Scientist

Paris

Education

Université Paul Sabatier Toulouse III

Master's degree, Astrophysics, Space Sciences, Planetology | Co-accredited by UPS and ISAE SUPAERO · (2019 - 2021)

Université Paul Sabatier Toulouse III

Bachelor's degree, Physics - L1 & L2 at Lebanese University · (2015 - 2019)

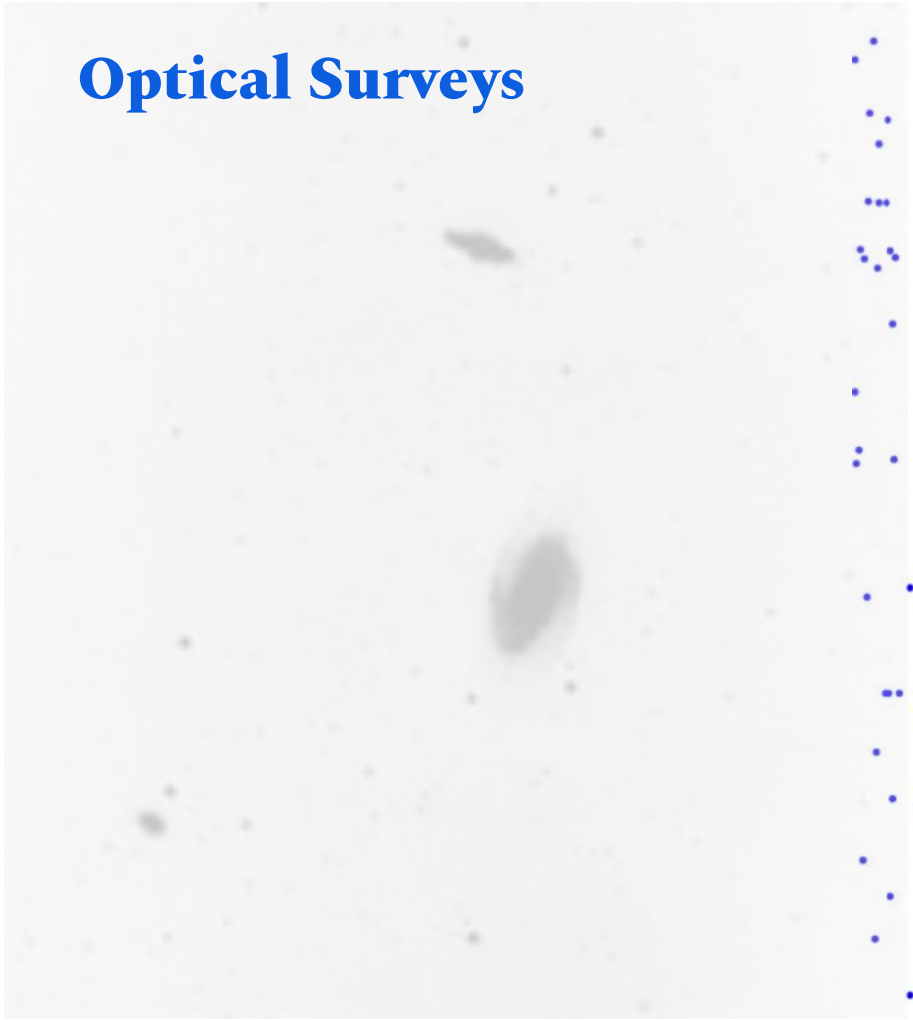
Experience

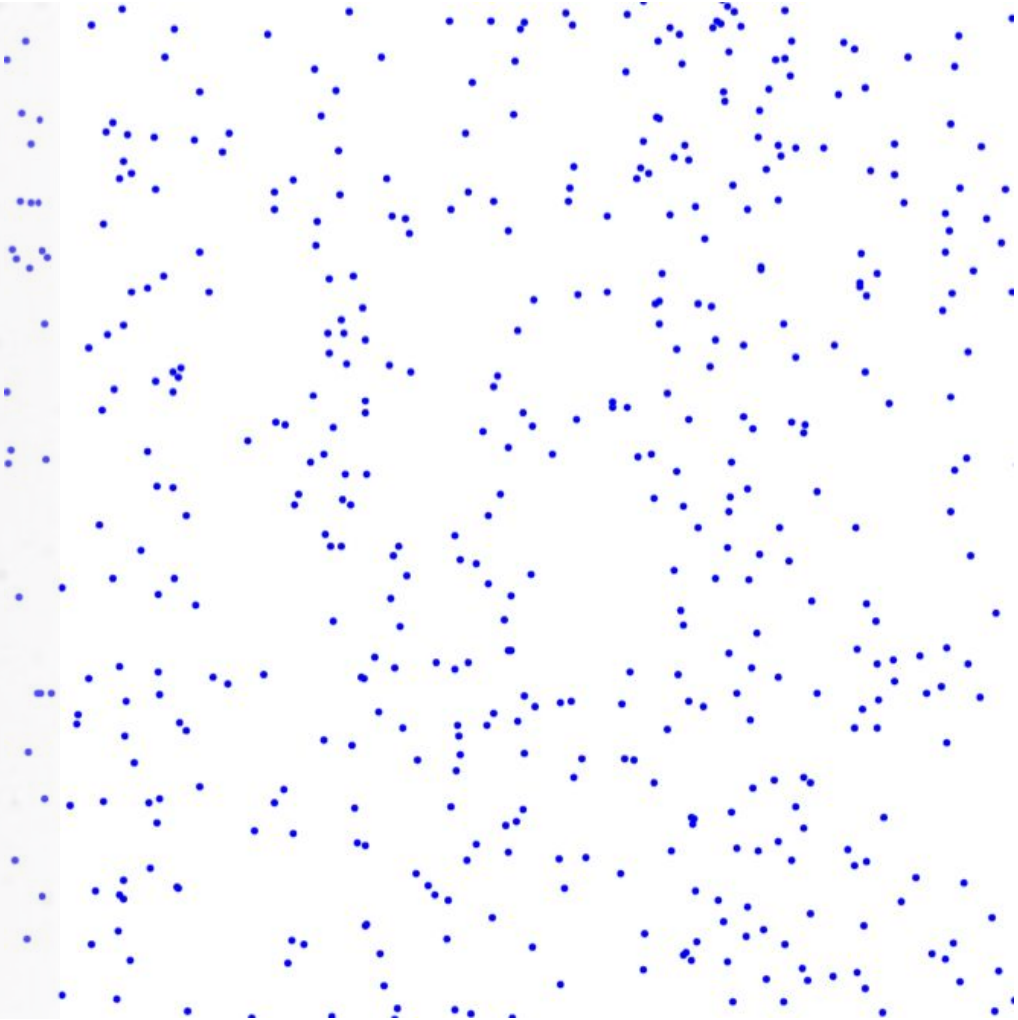
IJCLab

Cosmologist

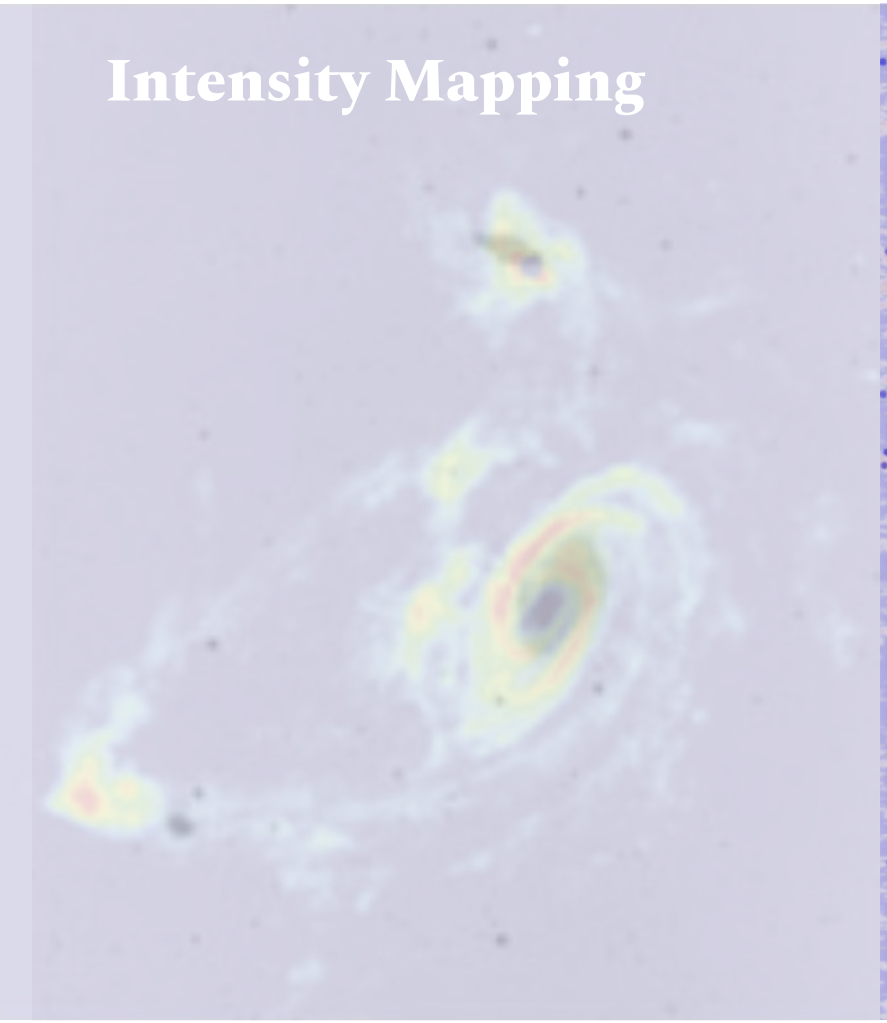
February 2021 - July 2021 (6 months)

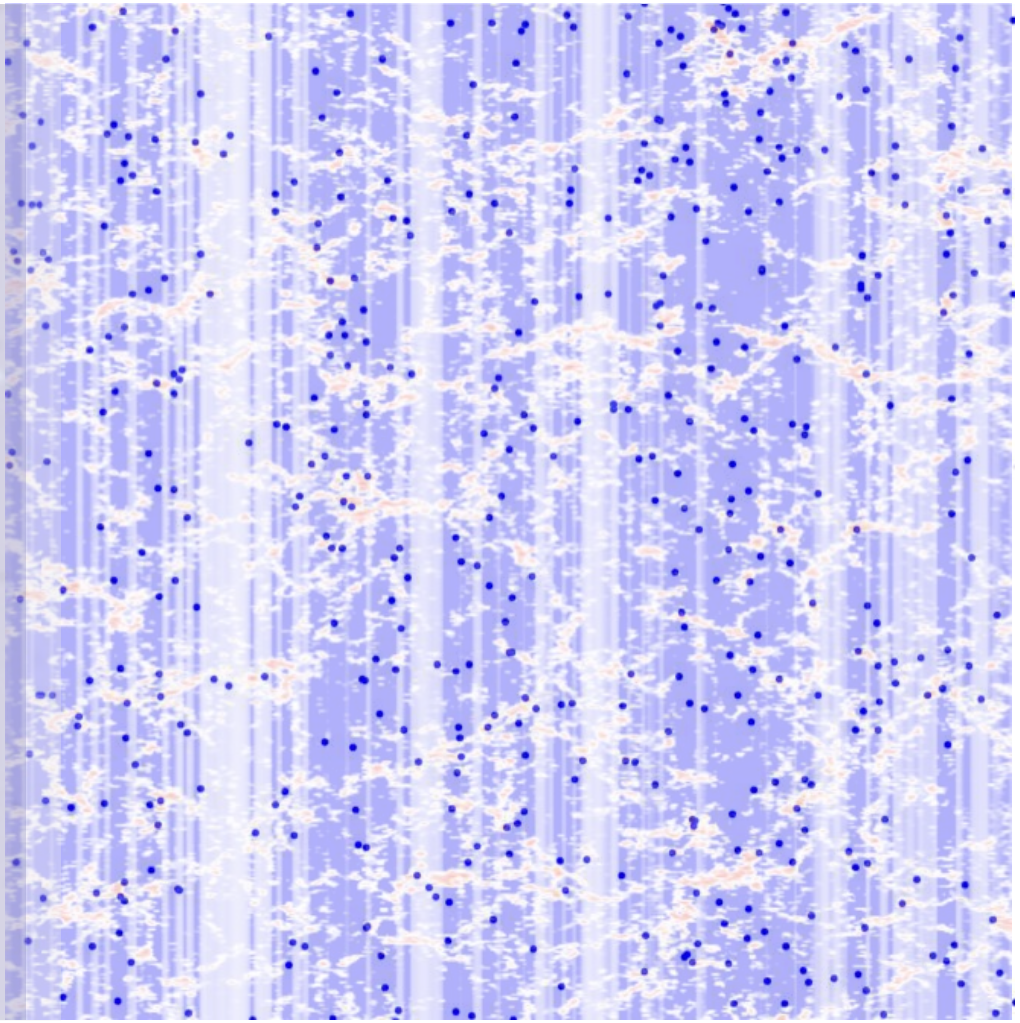
Optical Surveys



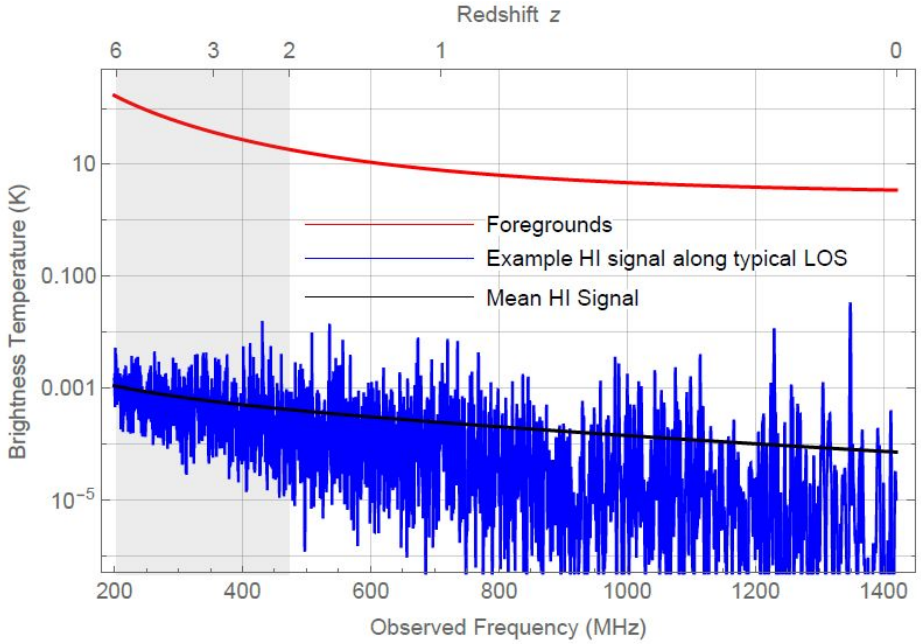


Intensity Mapping



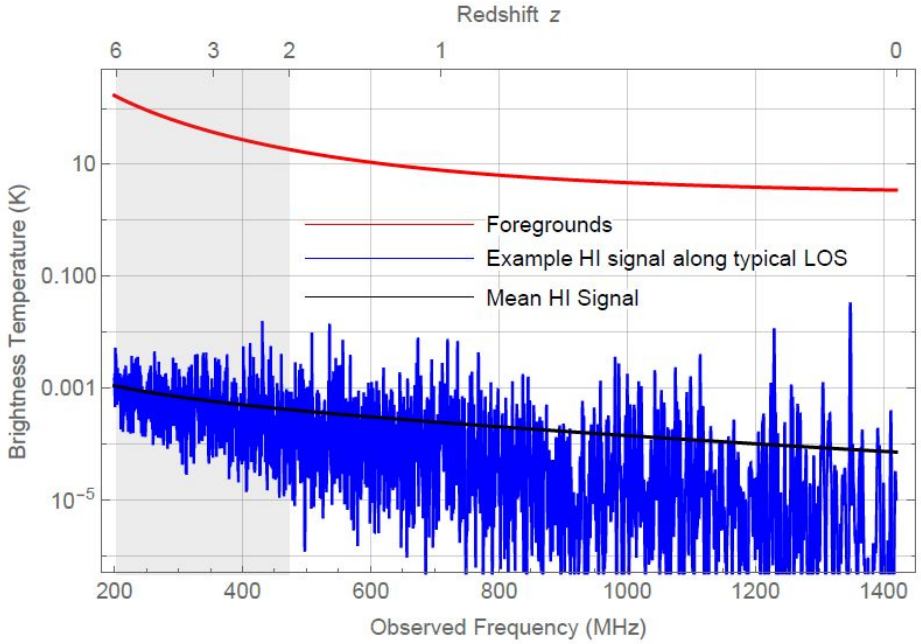


Aims



$$\sigma_{noise} = \frac{T_{sys}}{\sqrt{\Delta\nu\Delta T}}$$

Aims



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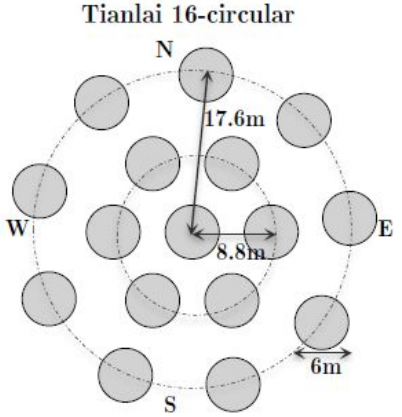
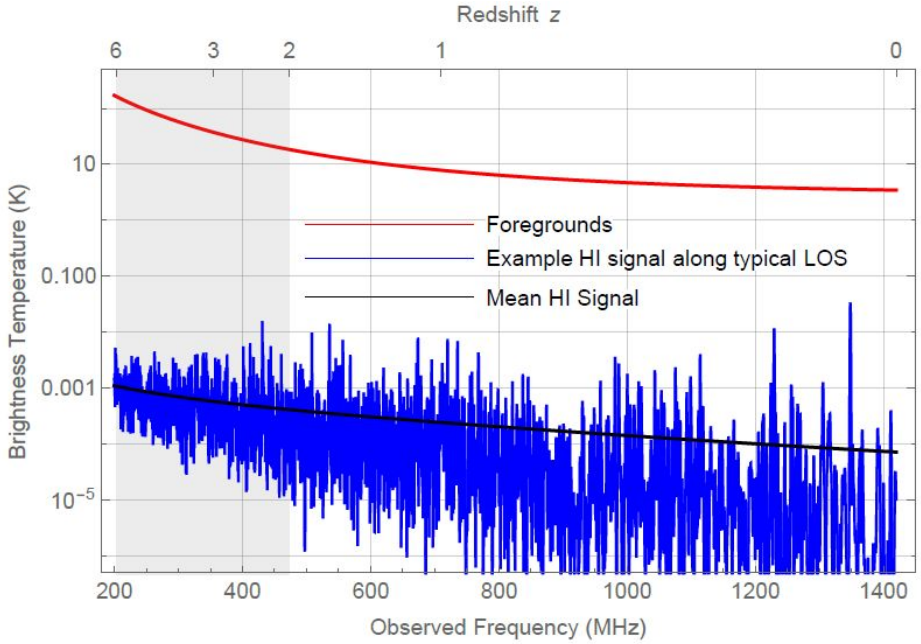
NCP surveys



Aims



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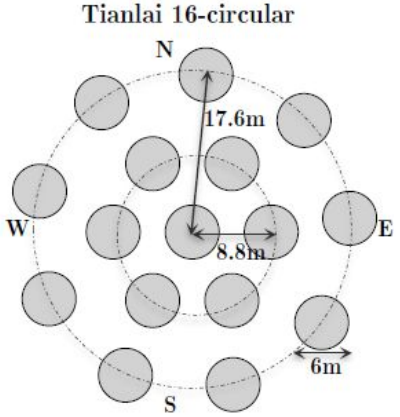
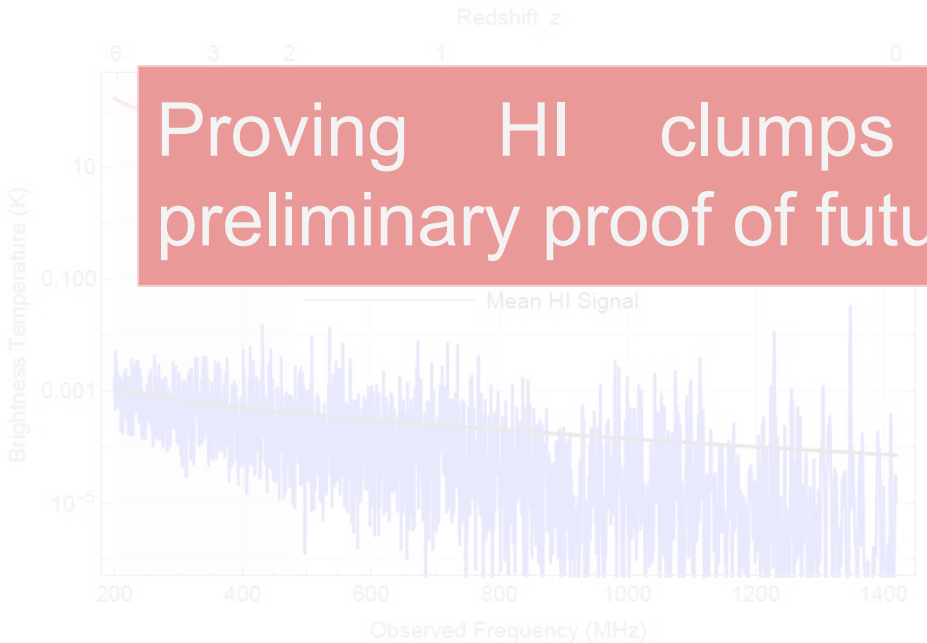
NCP surveys



Redundancy

Aims

Proving HI clumps detection as a preliminary proof of future BAO's detection



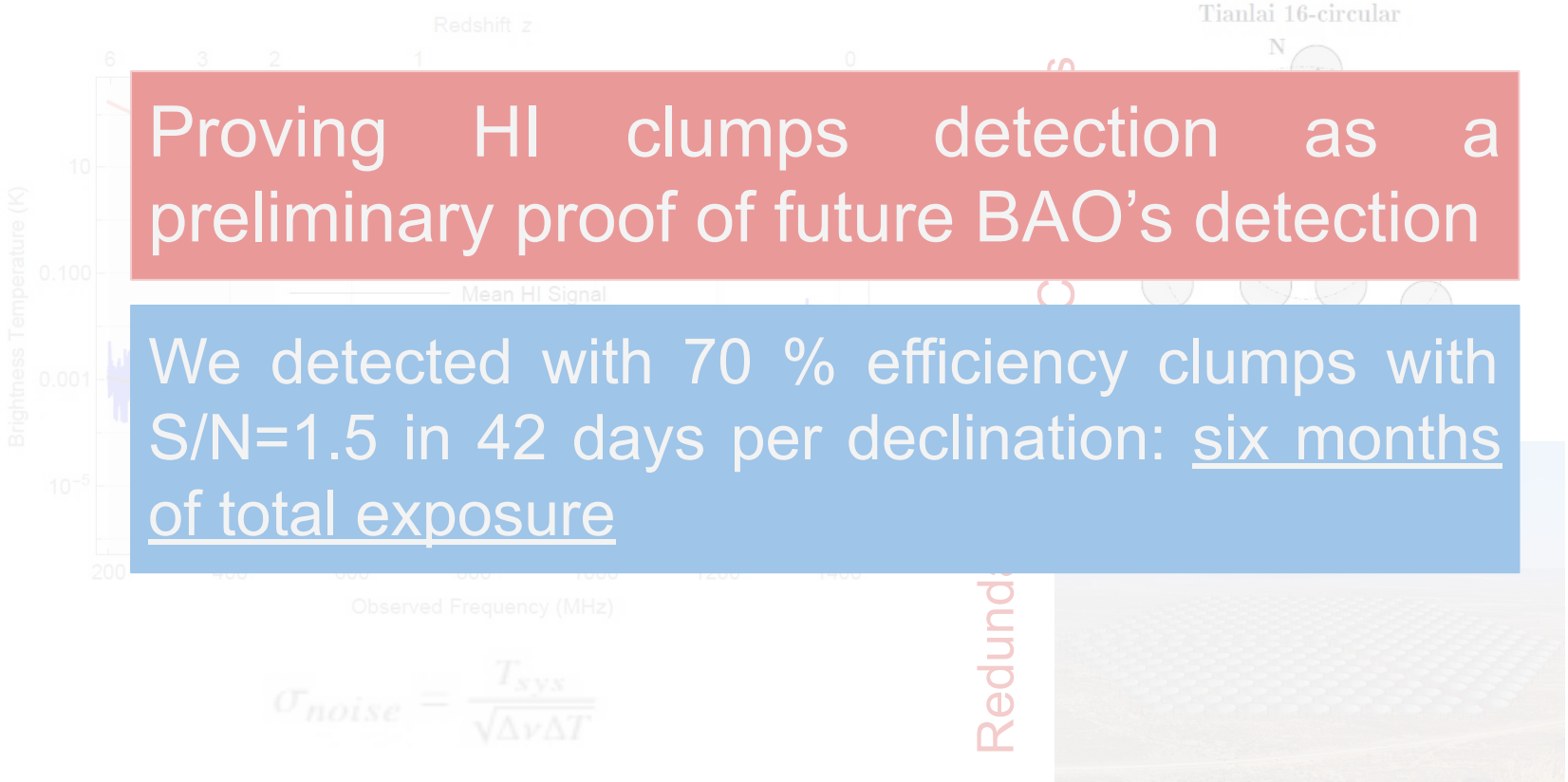
$$\sigma_{noise} = \frac{T_{sys}}{\sqrt{\Delta\nu\Delta T}}$$

Redundancy

Aims

Proving HI clumps detection as a preliminary proof of future BAO's detection

We detected with 70 % efficiency clumps with S/N=1.5 in 42 days per declination: <u>six months of total exposure</u>



$$\sigma_{noise} = \frac{T_{sys}}{\sqrt{\Delta\nu\Delta T}}$$

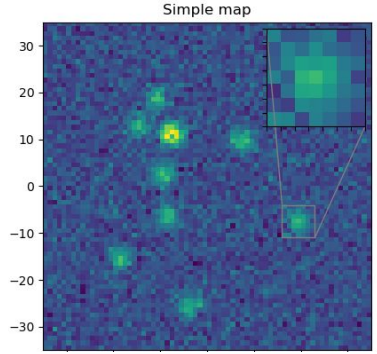
Method

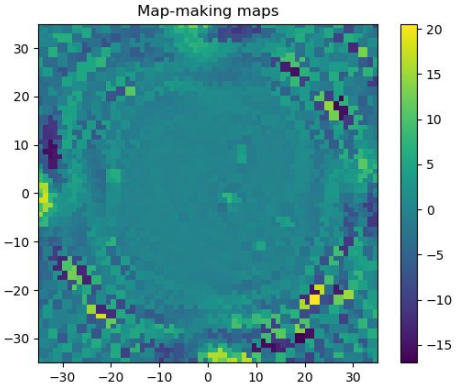
Sky-Maps Simulation

Source detection algorithm

Post processing

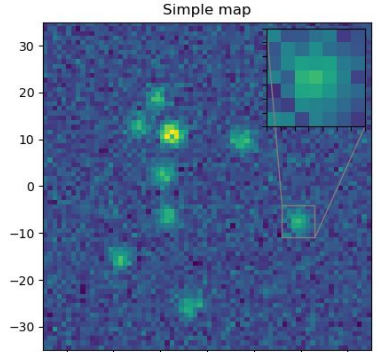
Method

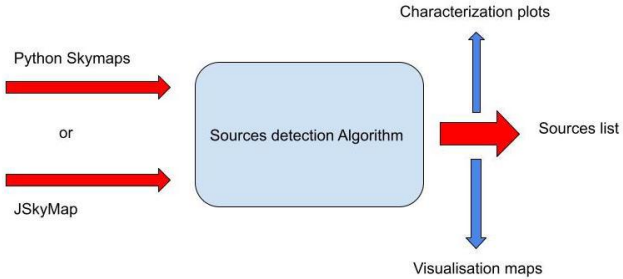


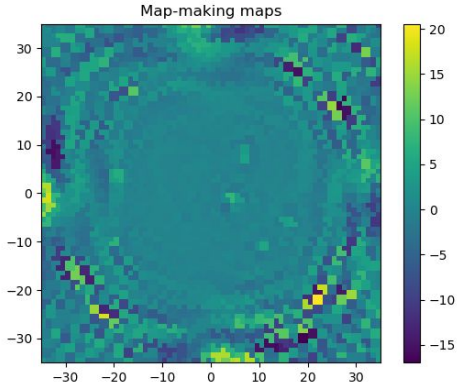


Sky-Maps Simulation **Source detection algorithm** **Post processing**

Method

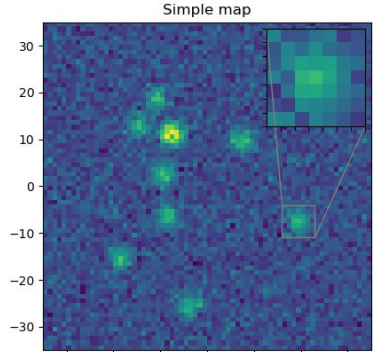


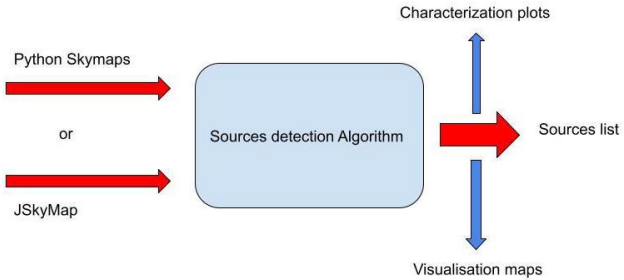


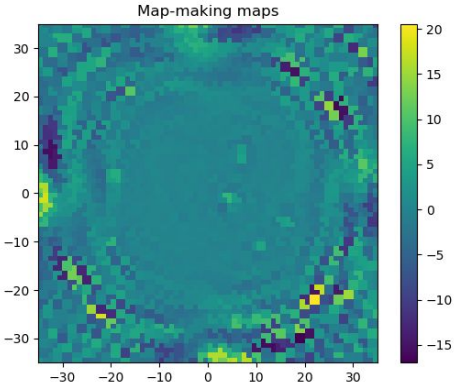


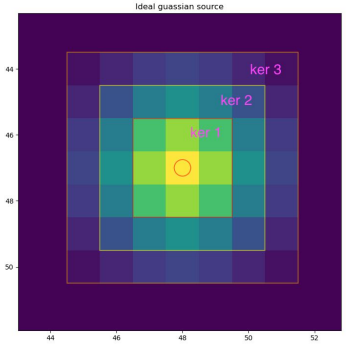
Sky-Maps Simulation | Source detection algorithm | Post processing

Method





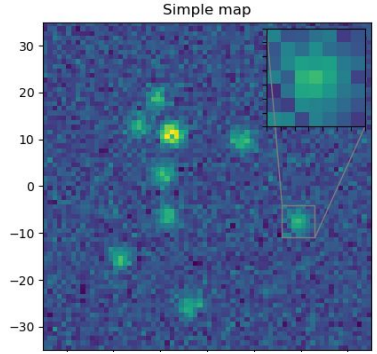


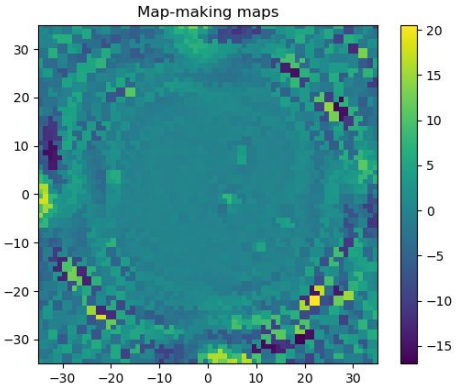


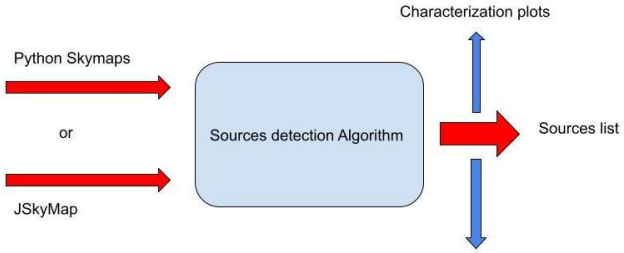
$$mean(ker1) > background + n \times \sigma_{bg}$$

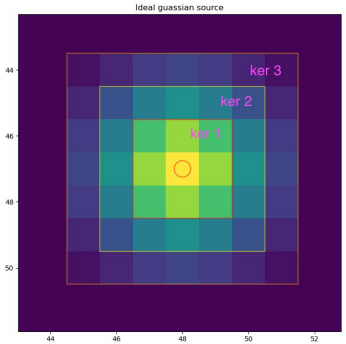
Sky maps simulation **Sources finder** **Post processing**

Method

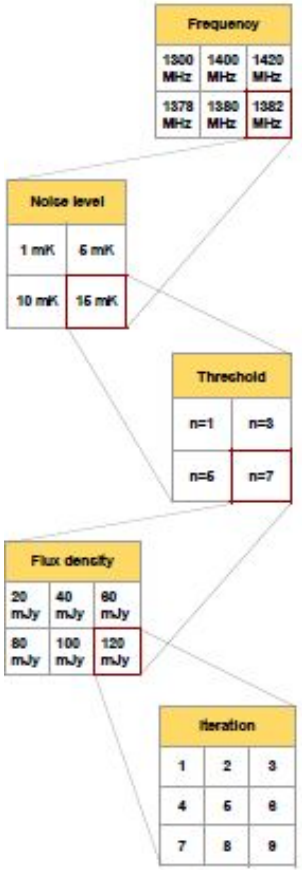








$$mean(ker1) > background + n \times \sigma_{bg}$$

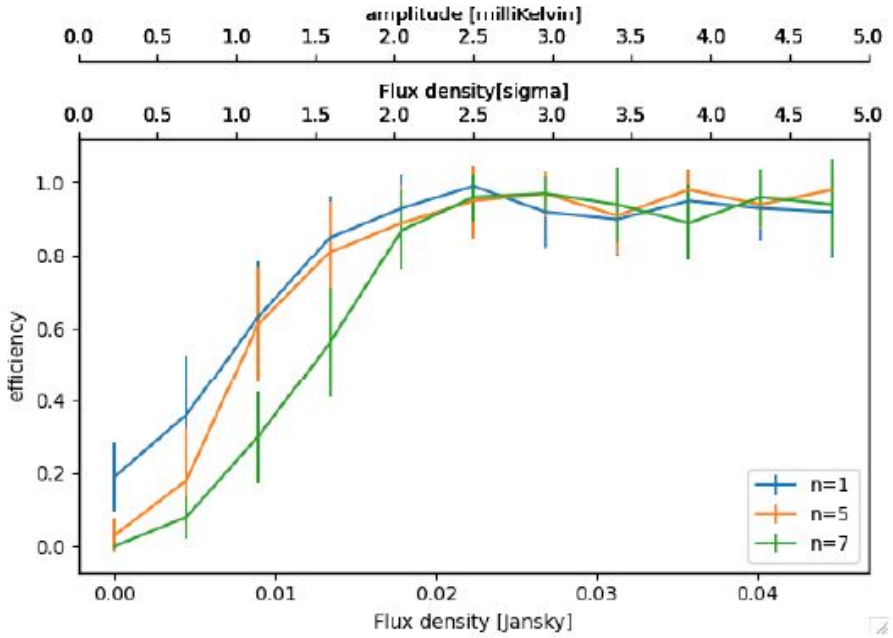


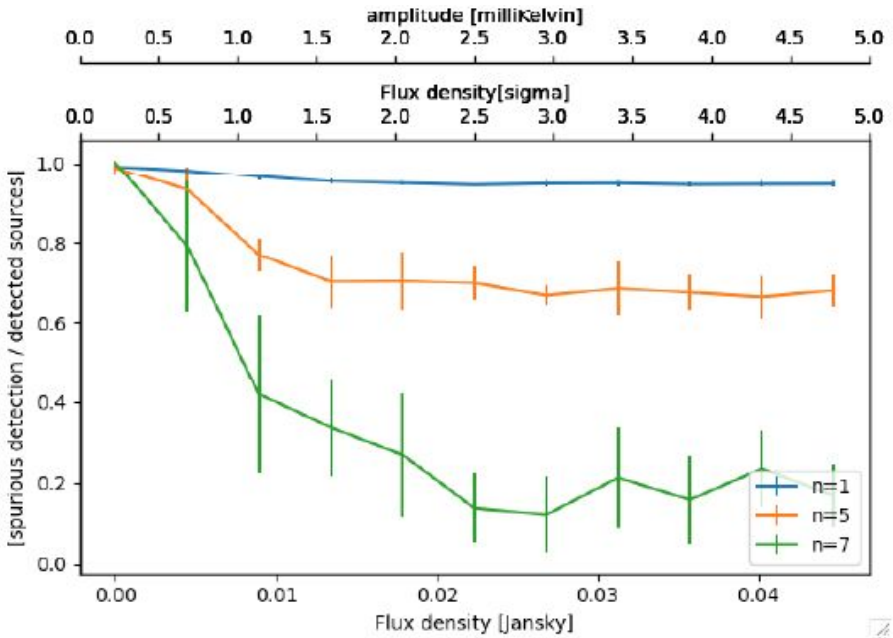
Sky maps simulation

Sources finder

Post processing

Results - Python maps



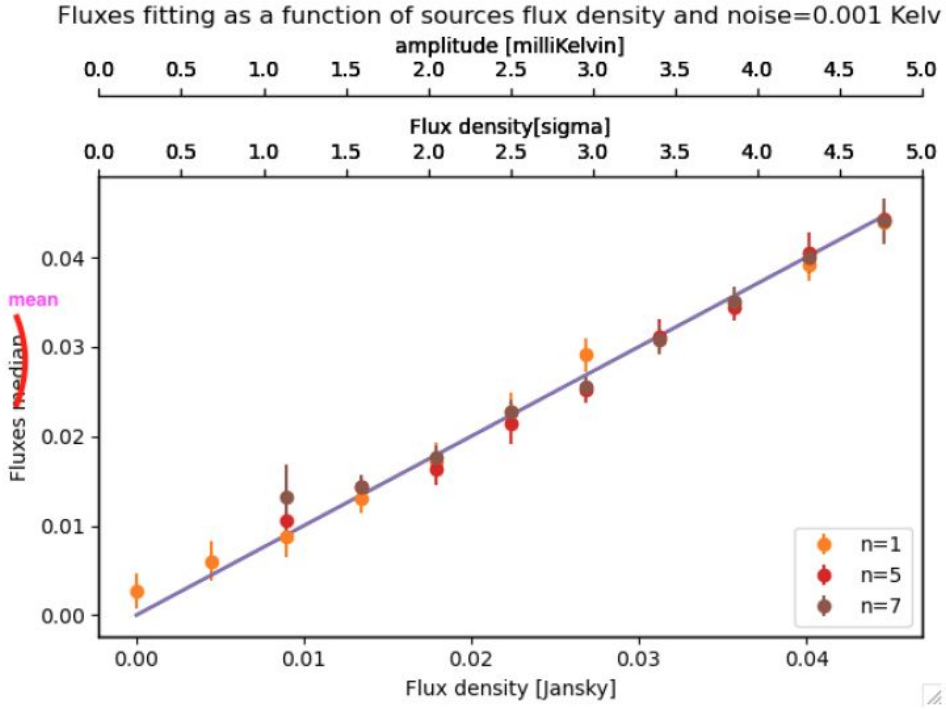


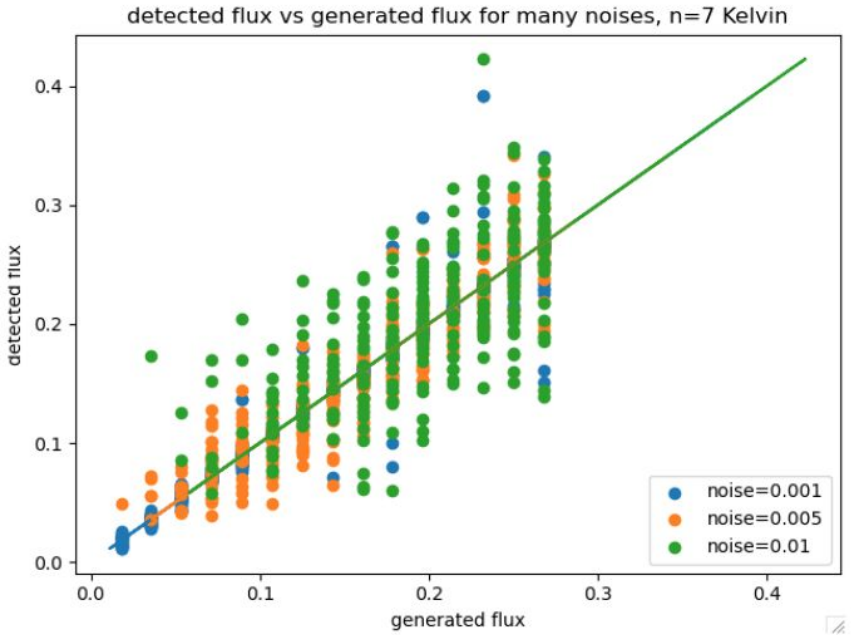
$$mean(ker1) > background + n \times \sigma_{bg}$$

Detection efficiency

False detection rate

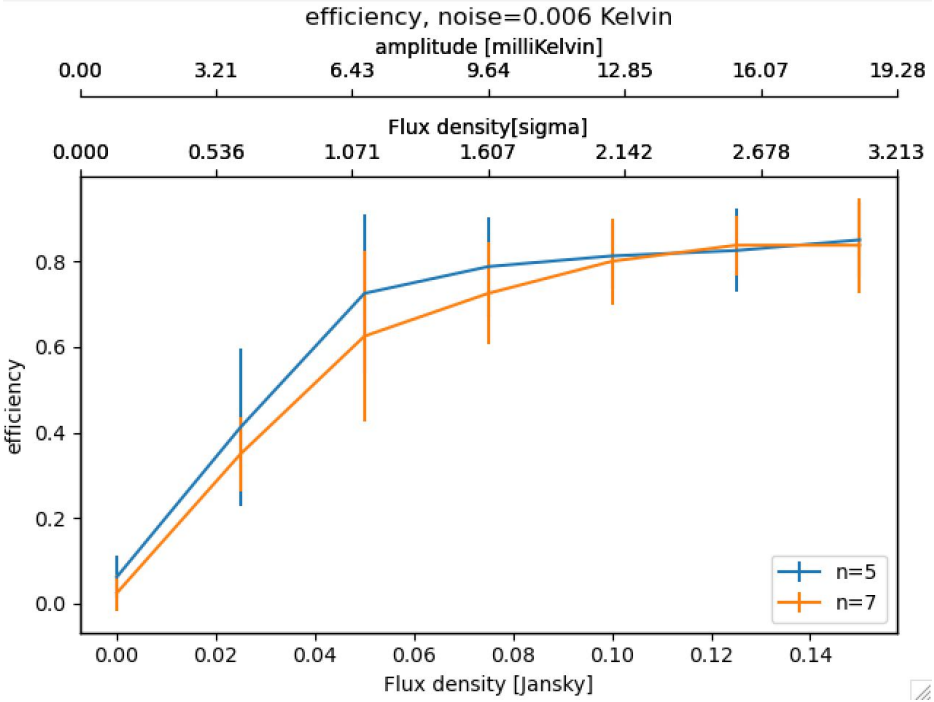
Results - Python maps



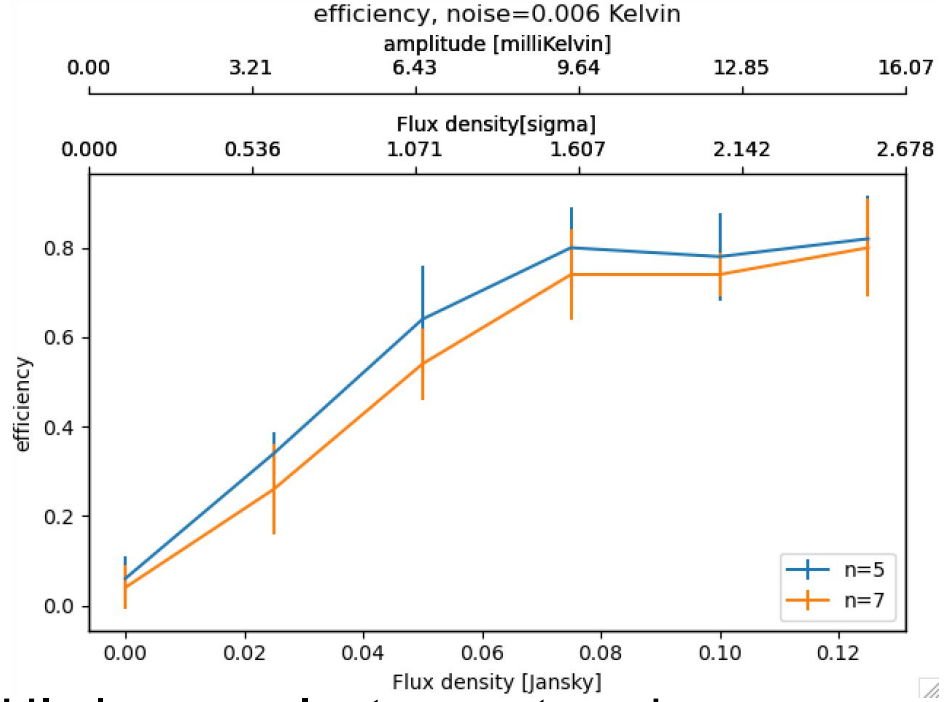


Reconstructed fluxes

Results - JSkyMap maps



HI clumps + Instruments noise



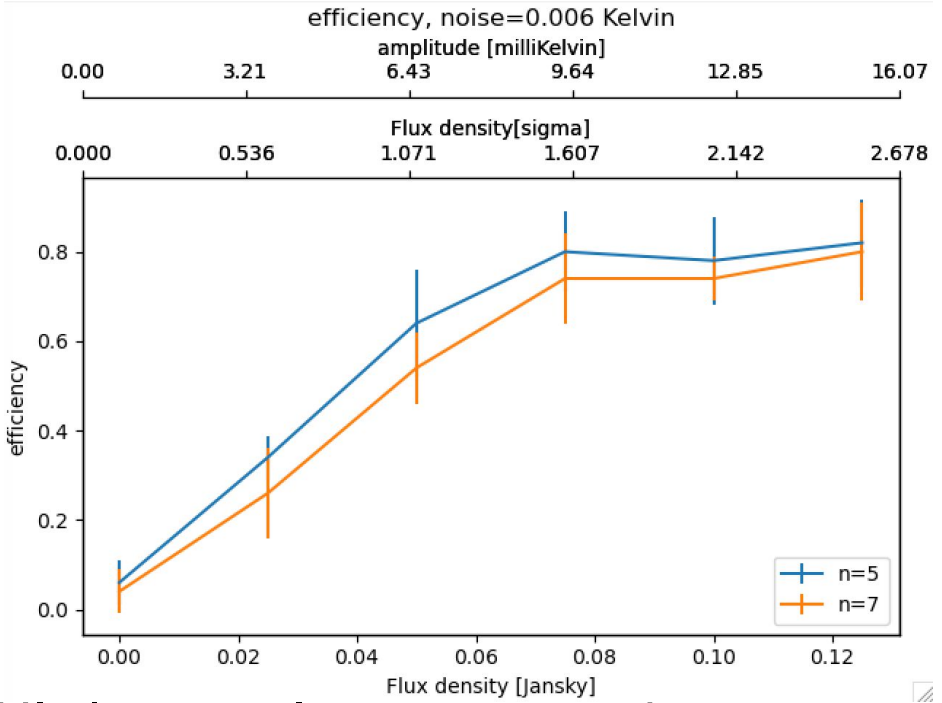
HI clumps + Instruments noise + Foregrounds. Results after subtraction.

Results - JSkyMap maps

We can detect with an efficiency of 70 % clumps with S/N=1.5 in 42 days per declination.

This corresponds to six months of total exposure

Forecast arXiv:2205.06086



HI clumps + Instruments noise + Foregrounds. Results after subtraction.


Thank you