

The FYST/CCAT LIM Survey: Enhanced Spectral Line Deconfusion

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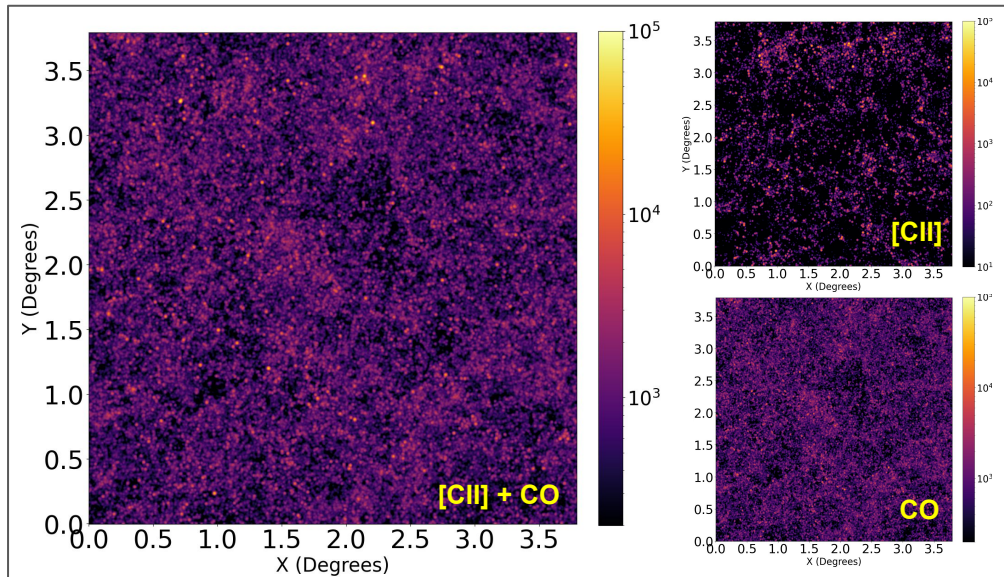


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Astronomie



Interloper Mitigation : a FYST perspective

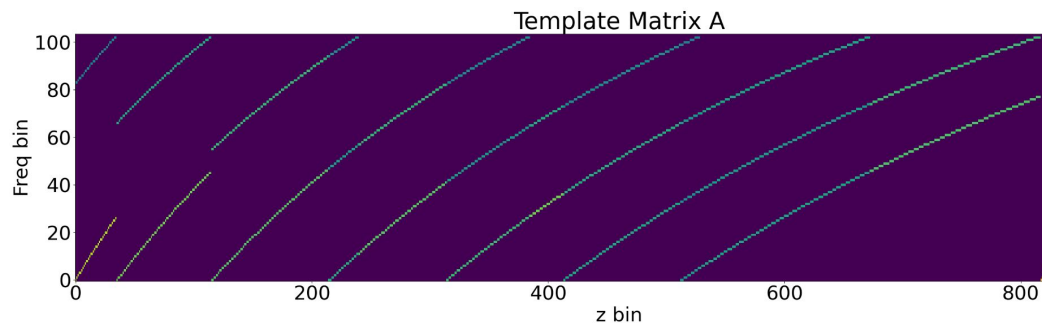
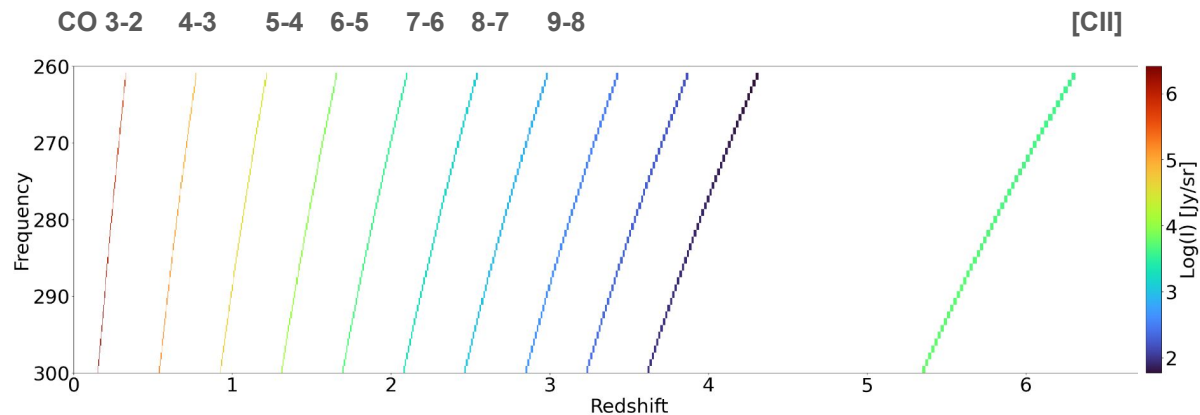
(Karoumpis+22)



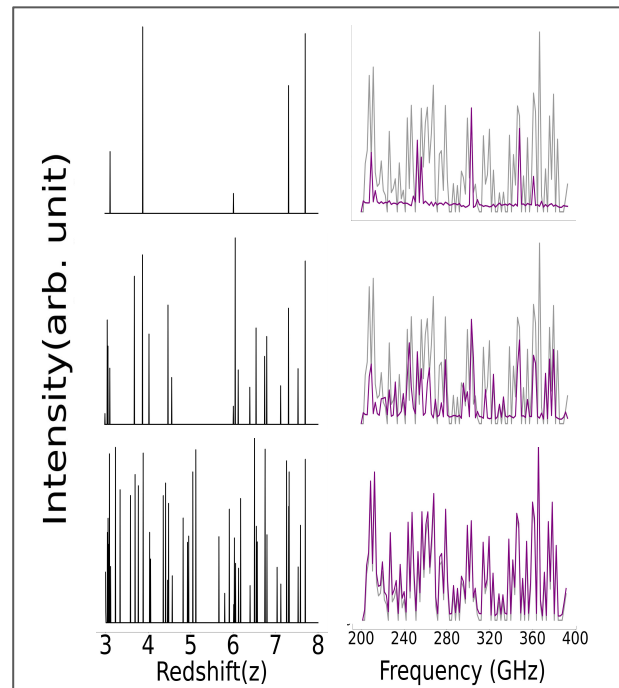
Mock Intensity map at 280 GHz for EoR-Spec DSS based on post-processing TNG simulations

- Targeted Masking (Karoumpis+24): less effective at low frequencies due to increased uncertainty arising from survey volume loss.
- Line Cross Correlation (Roy+24) : cross-correlation inherently contains the product of biases of both the lines, making it challenging to disentangle individual biases and infer limits on line luminosities.

Spectral Line Deconfusion (*Cheng+20*)



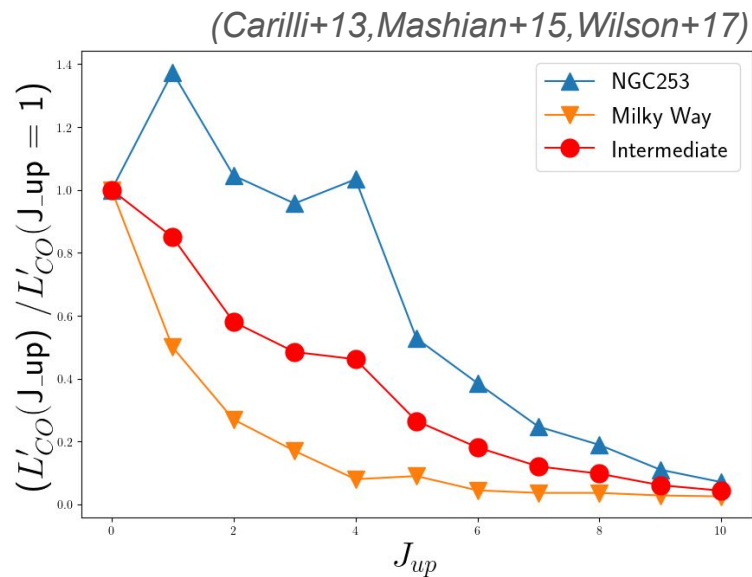
Spectral Line Energy Distribution (SLED) Templates



Fitting and removing CO emitters

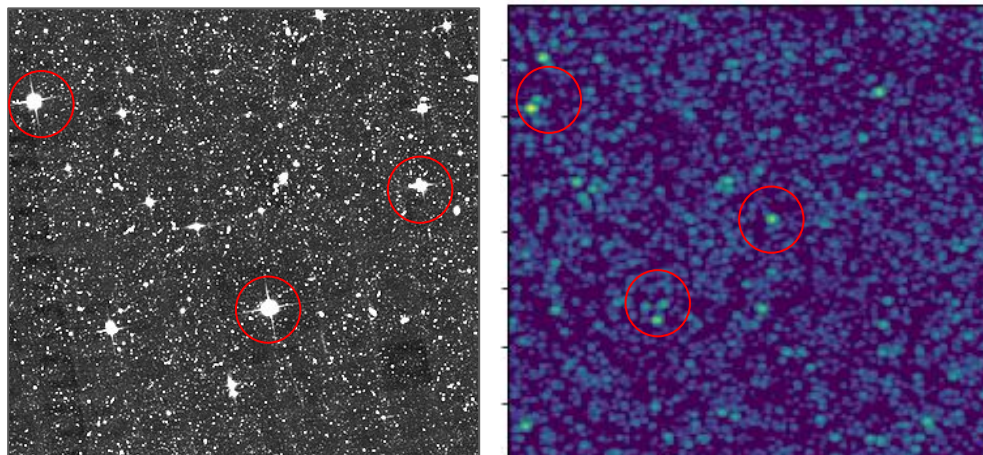
We can do better!

- Custom SLED Templates



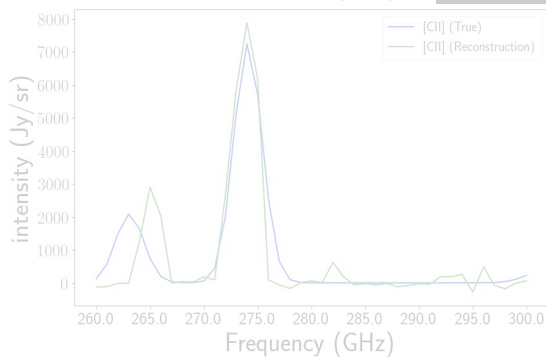
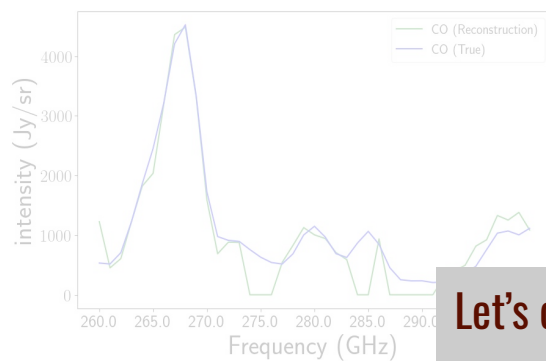
Combining MW-like and Starburst-like SLEDs

- Priors + Problem Inversion



Priors from the COSMOS field

Preliminary Results



Let's chat over coffee !

