



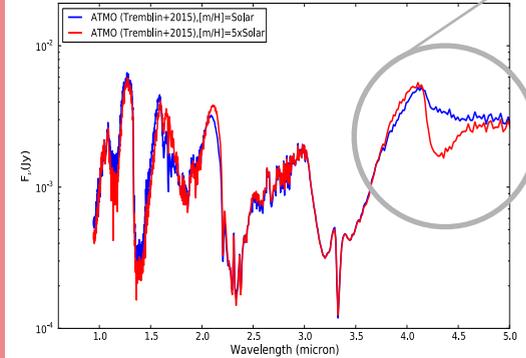
# JWST/NIRSpec observations of nearby young clusters

Catarina Alves de Oliveira, ESA

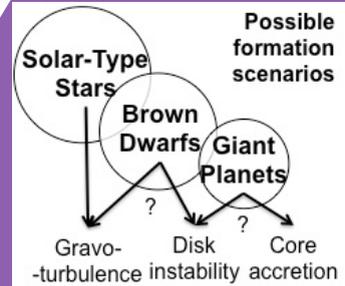
This should be the last Cool Stars before JWST launches in 2021. As we patiently await the real data, I will showcase how I plan to use ESA's contributed NIRSpec instrument in the quest to further understand star formation in our Galaxy.

JWST near-IR imaging with the NIRCams instrument and follow-up multi-object spectroscopy of up to ~100 young brown dwarfs simultaneously with NIRSpec will allow us to constrain the cut-off mass limit of star formation, and investigate the presence of heavy elements enrichment as a clue to their formation process.

NIRSpec simulation of young brown dwarf spectra

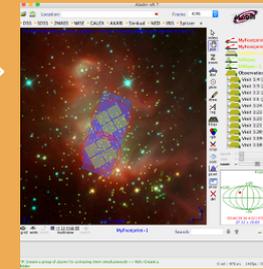


The effect of metallicity on a young Jupiter-mass object

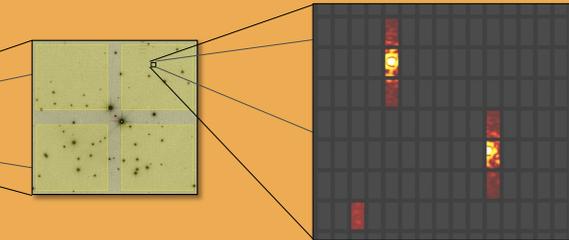
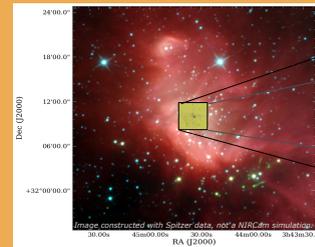


Star formation theories can be tested by using JWST to discover and characterize the population of least massive brown dwarfs.

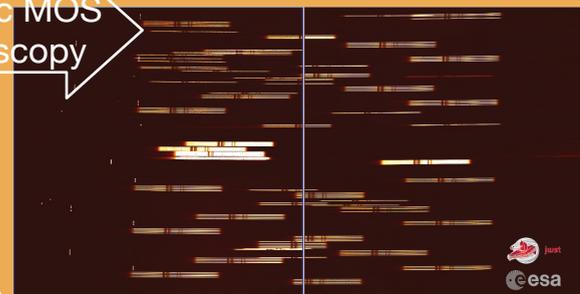
NIRCam imaging



Target selection and configuring micro-shutter array



NIRSpec MOS spectroscopy



8 months to go!

