

Outstanding Questions

Session 1:

- Should the JWST and/or the ELTs aim at very deep SURVEYS to see first galaxies?
- What is the best strategy with JWST and ELTs to find pop III stars?
- In order to study the highest z galaxies: should we split the task into imaging with the JWST and spatially resolved spectroscopy with the ELTs?
- Should ELTs aim at resolving $z > 6$ objects if these are $\ll 0.1''$ in size? If so, what is the best strategy?

Session 2:

- in order to study the "causality" in the process of galaxy formation and evolution, both gas and stars need to be understood: how can JWST and ELTs synergise
- which are the physical parameters of $z \sim 2-3$ galaxies that should be studied?
- which redshift is most interesting to look at: $z \sim 2$, the peak of the star formation rate, or $z \sim 6-10$ the epoch of re-ionisation?

Session 3:

- Should ELTs work at low spatial/spectral resolution?
- After 5 years of JWST operations (and nearly 10 years of ALMA operations), what will be the most pressing questions to address with the ELTs?
- How important is the synchronicity of JWST and the ELTs?
- is the new 'blue wavelength range' the NIR?
- given the strong case for mid-IR instruments on ELTs - if one could put two mid-IR instrument on an ELT, which would they be? How important is low spectral resolution work from the ground given the JWST superiority?

Session 4:

- Should the ELTs (and JWST) do any exo-planet detection work, or should they focus on their characterisation?
- Solar system work: do the JWST and the ELTs foresee to track at non sidereal rates (and at which)?
- Biomarkers: they are challenging - should we nevertheless aim at looking for them? and if so, what is the best strategy?

Star and Planet Formation Questions:

- Should ELTs work at low spatial/spectral resolution? -
No/Yes.
- After 5 years of JWST operations (and nearly 10 years of ALMA operations) what will be the most pressing questions to address with the ELTs?
Higher spatial resolution of key sources found from wide-field surveys. Higher spectral resolution observations of gas disks studied with MIRI.
- How important is the synchronicity of JWST and the ELTs?
Not sure for star formation studies and notion of survey then follow up. Would you need to survey new regions after initial ELT results?

Star and Planet Formation Questions:

- If one could put two mid-IR instrument on an ELT, which would they be?

Imager/spectrograph from 3-25 microns and a mid-IR echelle.

- How important is low spectral resolution work from the ground given the JWST superiority?

Important if coupled with high spatial resolution of ELT.

- Should the ELTs (and JWST) do any exo-planet detection work, or should the focus on their characterisation?

Yes! Focus on unique discovery space.