Abstract Evaluation

Name of Editor: \_\_\_\_\_\_\_\_Matthew Murphy\_\_\_\_\_

Identify the below sections in the abstract – if you identify them, copy and paste the text/summarize as instructed. In all cases, add comments if: something is missing, the text could be made clearer and/or the arguments stronger.

* Started with one or two facts that relate to the problem statement (copy them here)

“Reionization-era galaxies are observed to have a wide variety of stellar populations, ranging from populations dominated by young, massive stars produced in a recent starburst to those with old stars with ages of several hundred million years.”

Comment:

It could be useful to briefly state the age of these young, massive stars in years. It’s not clear how “recent starburst” compares to the stated several hundred million year age of the other stars, or why these two populations of stars can’t both be considered products of the first phases of star formation in the Universe.

* Explained why these facts are important (copy line here)

“at the redshifts of reionization when the universe is < 1 Gyr old, stellar ages of several hundred million years suggests that these are the products of the first star formation in the Universe”

* Introduced the problem (rewrite the problem in your own words)

Original text:

“However, at the redshifts probed by current measurements (z ~ 6 - 9), continuum emission from old stellar populations is impossible to photometrically disentangle from nebular emission powered by young stars, making it difficult to cleanly identify old stars”

Rewrite in my own words:

Current observations are unable to distinguish the “old stars”, which are the products of the Universe’s initial star formation, from “new stars” which are likely products of later generations of stars in these reionization era galaxies. Since we’re most interested in this initial star formation, this is a problem.

* Stated the goal (copy it here)

“To be confident in the presence of an old stellar population”

* What is the key component? (your words)

“Deep” observations using Keck/MOSFIRE, VLT/X-shooter, Gemini/FLAMINGOS-2, and ALMA

Comment:

Not sure if there would be room for this in the abstract … but why do you need 4 different observatories? In your strategy (see below), it seems like you’re only targeting two different wavelengths, so how does this warrant time on all of these instruments versus just one or two?

* What is the target? (your words)

Six galaxies which are believed to lie at redshifts greater than 9

* Explained the strategy. (copy here)

“will allow us to obtain confident spectroscopic redshifts from either Lyman-alpha or [OIII]88μm emission, which we will use to place strong constraints on the ages of these systems via spectral energy distribution modeling”

* Stated the importance of the solution *to the subfield*  (copy here)

“Our project will yield the first sample of reionization-era galaxies at redshifts where the degeneracy between nebular and stellar emission can be broken and stellar population ages can be unambiguously determined”

* Explained the broader implications of results to *other subfields*  (copy here)

“and will provide key insights into the advent of star formation in the Universe.”