Abstract Evaluation

Name of Editor: \_Vivian Carvajal\_\_\_\_\_\_\_\_\_\_\_\_\_

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)

Radio-loud galaxies with AGN-powered jets have the potential to affect their host galaxy’s environment by generating powerful outflows of high-velocity gas. These outflows can significantly disrupt the ISM on scales comparable to the galaxy’s halo

I think it’s important to spell out acronyms like AGN once before just using the acronym.

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

and may therefore represent a critical period in galaxy evolution in which an AGN in a radio phase can drive significant evolutionary change by affecting the gaseous content of the galaxy

You could elaborate here more on why we should care about the gaseous content/how it affects evolutionary change. This sentence is also pretty long, so consider breaking it up or condensing it.

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

There haven’t been in-depth studies on the direct impact of AGN ionization jets, which can provide better information about feedback and evolution than just studies of star formation.

* Stated the goal (copy it here)

We propose to conduct MUSE observations of the optically-emitting warm, ionized gas in four identified radio galaxies observed to have small-scale radio jets (IC 5063, NGC 5643, NGC 1068, and NGC 1386).

A small grammar thing: you typically don’t use a hyphen when the first word ends in -ly

* What is the key component? (your words)

Observations using MUSE

* What is the target? (your words)

Four galaxies with known radio jets

* Explained the strategy. (copy here)

The integral field spectroscopy enabled by MUSE will allow us to investigate the morphology and kinematically map the ionized gas to see whether AGN cones are present. By comparing their alignment and orientation to the radio jet, we will be able to directly probe for jet-induced feedback.

My only concern as a reviewer would be that it seems that we don’t know if there are cones present in any of the four sources. If there aren’t cones present, then it feels like the whole project kind of falls apart (“AGN ionization cones which can offer a more direct view”). And since there are only four sources, it feels exceptionally risky. Maybe say something about how likely it is for cones to be present, or what a lack of cones might suggest.

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

I couldn’t find this clearly stated in the abstract.

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

Our project will also shed light on the cosmological simulations that show that radio jets do indeed provide a dominant source of feedback on sub-kiloparsec scales, but that have yet to provide answers as to the potential impact that AGN-induced jets may have on the galaxy’s large-scale gaseous environment, subsequently driving the evolution of galaxies.

This is just a very wordy, lengthy sentence that might benefit from being broken up or from some more precise word choices. For example:

“cosmological simulations that *indicate* radio jets ~~do indeed~~ provide a dominant source of feedback”