**Proposal Outline:**

**Section 1:** Facts, Problem & Summary paragraph

1. What is the descriptive heading?
2. 1-2 fact-based paragraphs:
3. State the fact leading each paragraph
4. Provide At least one reference per fact/paragraph.
5. What is the nuanced conclusion for each paragraph/fact?

Para 1:

i) Circumstellar disks of gas and dust are a natural by-product of the star formation process and provide the raw material for planet formation

iii). Hence, their evolution and dispersal determine when and what types of planets can form.

Para 2 :

i) Infrared and millimeter surveys of nearby star- forming regions have established that the typical protoplanetary disk lifetime is a few Myr but the disk dispersal timescale, i.e. the transition from disk-bearing to disk-less, is an order of magnitude shorter

ii). Ercolano & Pascucci 2017 for a recent review

Turner et al. 2014 : viscous accretion vs MHD winds is debated as shown in this reference

etc

iii) Our proposed observations have the potential to provide the first maps of these photoevaporative winds.

Para 3 :

i) ionized neon is observed towards isolated low-mass stars with disks

ii) back up -- observtions, connections to wind.

iii) The blueshifts are a clear tell-tale sign of a slow wind with [NeII] emission mostly tracing disk radii where dust grains are still present in the midplane, as dust is the main source of opacity and blocks view of the redshifted outflowing gas

1. Problem paragraph:
2. What is “the problem” statement?
3. Why is it critical to answer now?
4. The last paragraph:
5. What is the proposal? (identify key component)
6. **Why HST/JWST?** Does this advance HST/JWST science goals? (Or goals of the observatory you chose)
   * Which **key science goals** of HST/JWST does your proposal connect to ?
   * JWST: <https://webb.nasa.gov/content/science/index.html>
   * HST: <https://www.stsci.edu/hst/about/key-science-themes>

**Star Lifecycle Key Goals of JWST**

* **Key question: Exactly how do planetary systems form?**

vi). Here, we propose to use MIRI MRS to map the winds from two disks with large dust cavities, constrain the ionization fraction in the flow, and wind mass loss rates.

Key component = MIRI MRS

**Section 2:** The Problem & Motivation/Narrative of the proposal

1. Identify a descriptive heading that states the problem
2. State why solving this problem advances the subfield.
3. Identify the “key component” missing to solve the problem.
4. Mapping photoevaporative winds in multiple forbidden and H I recombination lines, as proposed here, can discriminate between these two models and help quantify mass loss rates.
5. List relevant references
6. Outline a figure to illustrate the problem (can be in words, a sketch)

**Section 3:** Describe the Target (setting the stage for generating the “Key Component”)

1. What are you targeting ? (imaging/spectra/archival data of **what astronomical object**, or **what physical mechanism/ simulations/data** **set** )
2. State why is the target critical to solving the “problem”?
3. State the suitability of target 🡪 Feasibility with “key component”:

For GO: Feasibility of HST/JWST observations (justify HST/JWST usage)

For AR/Theory: Identify existing/future HST/JWST data sets (proposal #)

1. Outline a figure that explains the chosen target (e.g. illustrate the target and connection to “key component" and/or “problem”). (can be in word, a sketch)

**Section 4:** The Strategy: HST/JWST + Target Solves the Problem (Generate the “Key Component”)

a)Explain the strategy to generate the key component:

For GO: describe the proposed observations \*briefly/succinctly\*

For AR/Theory: describe \*briefly\* the analysis method/proposed **usage** of simulations/codes and relation to existing/future HST/JWST data sets.

b) Explain the data products of the program (tangible outcomes).

c) Outline a diagram for your strategy (key component + target = solution) (can be in words, a sketch)

**Section 5:** Importance & Broader Implications

1. What are the big picture implications of the proposed products of your study to your **subfield** and why do they matter? (How will your study advance the subfield?)
2. How does this study increase the **legacy value** of the observatory?
   * + What **other subfields** are advanced by these observations (GO) or data analysis/code/simulations (AR) ?
     + Do the data products serve the community at large?