

# SOAR Remote Observing

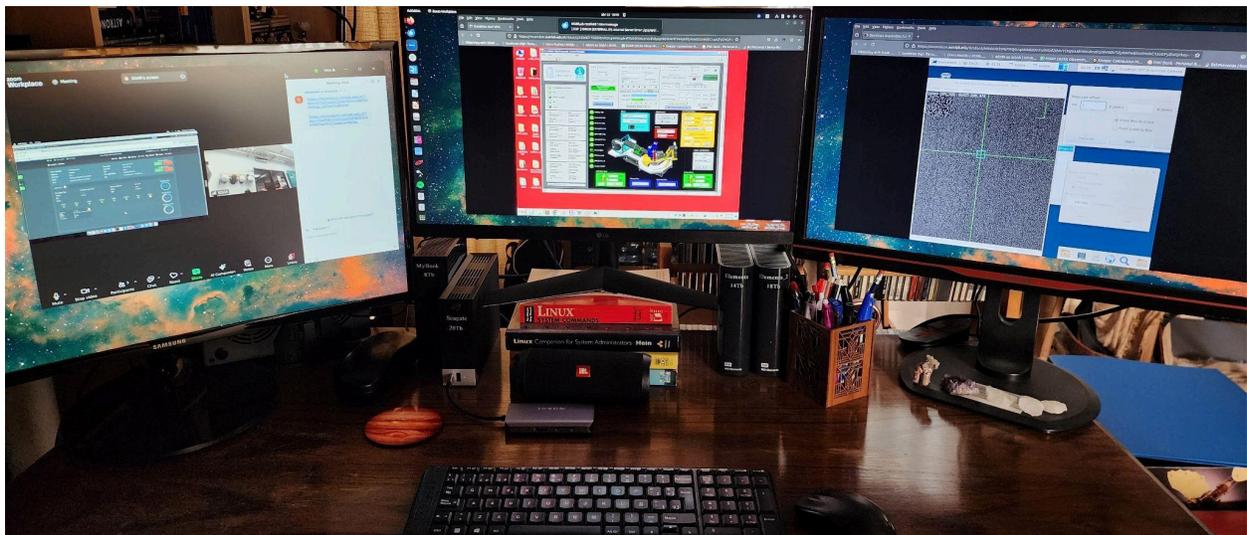
Last modification: April 23th, 2025, by César Briceño

SOAR remote observing now uses Keeper, a connection manager tool that allows observers to access and control remote computers for observing through any web browser. This setup for remote observing has several advantages with respect to observing through Zoom:

- Observers can make use of several independent screens in order to display more comfortably the multiple tools for observing.
- The response time is much faster, which significantly improves the whole observing experience, and minimizes errors due to lag of mouse clicks.
- Several people in a team can access the tools either with remote control or in view-only mode, allowing a better distribution of the workload during the night.

## Requirements for observers:

- As has always been the case for remote observing, we strongly recommend a minimum of two screens, though 3 or even 4 screens will make your observing session much more comfortable. This arrangement can be either on a single, multi-monitor computer, or by using several computers, or a combination of the above (see example in Figure 1). A single but very large monitor should work too.
- Stable and fast Internet connection.
- Software: Zoom, and a web browser.



*Fig 1. Example setup using 3 monitors. On the left is the Zoom app with the one-time links to the VNCs; center is the Goodman RED VNC in a browser window; on the right is the Goodman Acquisition Camera (GACAM) VNC in another browser window. More VNCs can be added if needed (e.g., if also observing with TSpec or the soaric7 VNC).*

## Procedure:

- Connect to the SOAR Zoom call for remote observing. This call will be used only for communication with the telescope operators, science support, and collaborators.
- The operator will share in the Zoom chat a number of links of Keeper sessions, one for each VNC required by the observer. For example, for observing with Goodman you will get one link for the Goodman GUI, one for the GACAM GUI (see Figure 1), and a third link for the soaric7 GUI running IRAF. Open each link in a separate window, or separate browser tabs (we recommend you use separate windows, so you can then arrange them conveniently across your screen real estate, but ultimately it is up to you).

## NOTES:

1. Each Keeper link is valid only as long as the Operator has the Keeper connection open. At the end of each night the Operator will close the Keeper connection, rendering the links of that night useless. Even if you copied them, they will not work again; for security reasons these are one-time links. For the following night, new links will be generated and provided to you via Zoom.
2. However, during the same night, if you close a Keeper browser window with a VNC, you can still open it again with the same link. Just copy the link or ask the operator to paste it again in the Zoom chat if you cleared the chat.

## Control and view-only options:

The Keeper sessions come in two flavors, and links for both versions can be shared to the observer(s):

- **Control:** when opening the link with Control, the observer will be in control of the VNC space (such as running the instrument GUI, looking at data in soaric7, etc).
- **View-only:** this link allows the observer to watch what is happening in the VNC, but that VNC does not accept any mouse or keyboard input. This option is convenient for having people that will only be eavesdropping, but ultimately each observing team should decide how to use these options depending on their needs.

## End of night:

- Submit your night report
- Close all browsers windows with the Keeper-VNC sessions.
- **IMPORTANT: DO NOT logout of the remote desktop inside a VNC**, just close your browser window(s) with the Keeper-VNC session(s).
- Disconnect from Zoom.