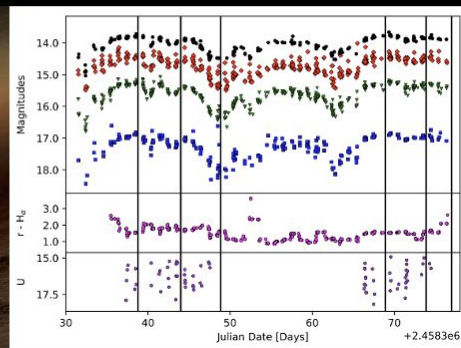
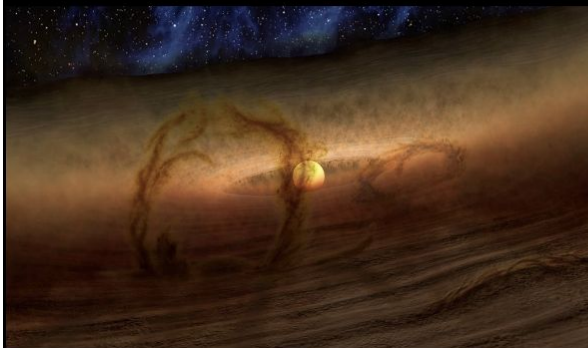




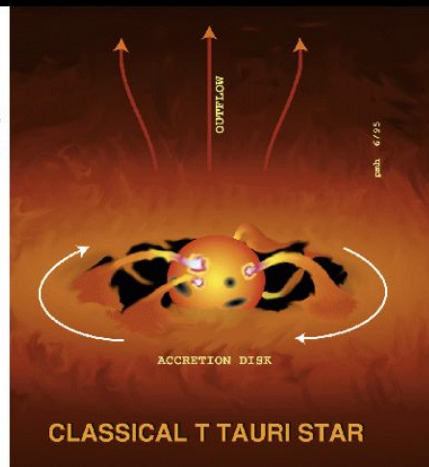
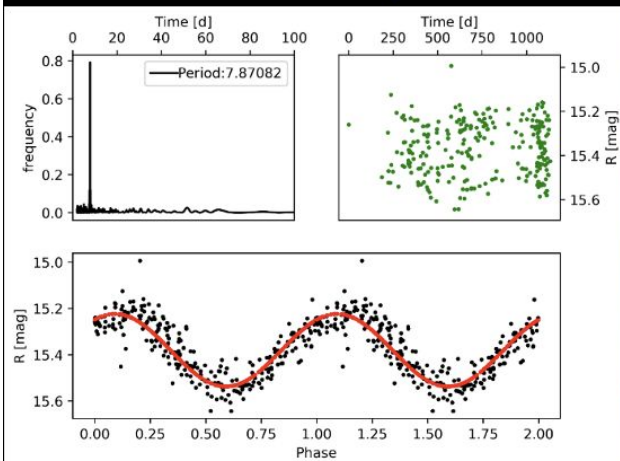
Periodogram notebook for HOYS lightcurves

<https://hoys.space>

Occultations of Stars by Disk Material



Star Spots and Rotation

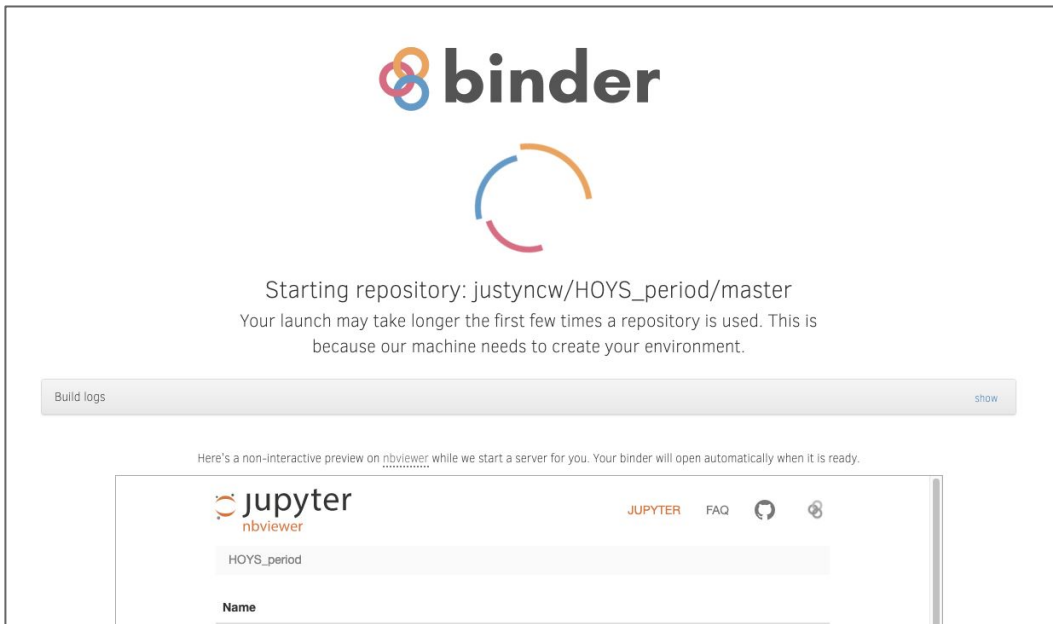


Periodograms

- Periodograms allow us to find periodic features in the light curves
- Such as occultations of the star by material in the disk
- Or star spots and accretion channels, rotating around the star
- These features appear as dips or peaks in the light curves, and repeat on regular intervals



Jupyter Notebook



https://mybinder.org/v2/gh/justyncw/HOYS_period/master
(link in video description)

- Notebooks allow for Python code to be executed in blocks, with sliders and dropdown lists for interactivity
- We have developed a notebook using AstroPy functions to generate periodograms
- Hosted on binder, all run online, fully editable, no local installations needed



Jupyter Notebook

hub-binder.mybinder.ovh/user/justyncw-hoys_period-x3cytt...

Jupyter

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Files Running Clusters

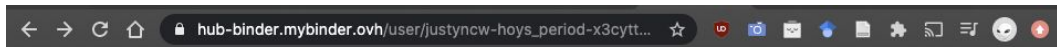
Select items to perform actions on them. Upload New ↕

	Name ↓	Last Modified	File size
<input type="checkbox"/>	light_curve_csv_files	2 hours ago	
<input type="checkbox"/>	period_viewer.ipynb	2 hours ago	5.5 MB
<input type="checkbox"/>	README.md	2 hours ago	397 B

- After waiting for the binder repository to start (may take a few minutes depending on server load)
- Click on 'period_viewer.ipynb' to load the notebook
- The notebook will then load in your browser
- Demonstration of how to use the notebook to follow



Jupyter Notebook



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Files Running Clusters

Select items to perform actions on them.

Upload New ↕

<input type="checkbox"/>	0 /	Name ↓	Last Modified	File size
<input type="checkbox"/>	light_curve_csv_files		2 hours ago	
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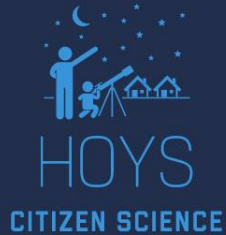
Files Running Clusters

Select items to perform actions on them.

Upload New ↕

<input type="checkbox"/>	0 / light_curve_csv_files	Name ↓	Last Modified	File size
<input type="checkbox"/>	..		seconds ago	
<input type="checkbox"/>	lightcurve_2MASSJ20494917+4410462.txt		2 hours ago	696 kB
<input type="checkbox"/>	lightcurve_2MASSJ20513057+4403449.txt		2 hours ago	670 kB
<input type="checkbox"/>	lightcurve_LKHa146.txt		2 hours ago	966 kB
<input type="checkbox"/>	lightcurve_V1598Cyg.txt		2 hours ago	900 kB
<input type="checkbox"/>	lightcurve_V1706Cyg.txt		2 hours ago	965 kB

- We have provided some example light curve files from the HOYS database
- To upload your own lightcurve files, click on the 'light_curve_csv_files' folder
- Then click upload and navigate to your light curve file to upload, it will then be accessible in the notebook



FUTURE VIDEOS

- Interpreting the light curves and folded light curves
- Science explained
- Comment suggestions for future videos/notebooks

