



September 2020 • Issue 70

Currents

In this Issue...

Observing Proposals Due: Please read carefully the NSF's NOIRLab [Call for Proposals for the 2021A semester](#) (1 February–31 July 2021), as the COVID-19 situation has affected some telescope operations and schedules, e.g., WIYN is not soliciting new NN-EXPLORE proposals for 2021A. Additional information on applying for time on the Gemini telescopes is available here. Proposals are due by **30 September 2020** at 11:59 pm MST.

Kitt Peak Restart Begins; Chile Restart is Next: Phase 1.0 of Kitt Peak's COVID-19 restart plan has begun, with a ramp up of effort at the site and personnel to be added weekly. This article summarizes anticipated activity at the Mayall and WIYN. Progress is contingent on infection rates remaining low enough for work to continue safely. Activities in Chile may resume next week. [Read more...](#)

Dark Skies Workshop: An online workshop on "[Dark and Quiet Skies for Science and Society](#)" (**5-9 October 2020**) will present for discussion the findings of working groups on topics ranging from light pollution and site protection to satellite constellations. The workshop, which is organized by the United Nations Office for Outer Space Affairs, IAU, and IAC, with support from NOIRLab, will be recorded, for the most part, for asynchronous viewing and commenting. **Register by 30 September** to obtain a link to participate. [Read more...](#)

MRI Award for CHARA Array: The largest optical interferometer in the world will grow even larger, thanks an NSF Major Research Instrumentation (MRI) Program grant to Georgia State University. The funding will enable higher angular resolution as well as enhanced u-v coverage for low spatial frequencies. The CHARA Array is available for open competitive access through the NOIRLab TAC. [Read more...](#)

AAS Special Session on Data-Intensive Astronomy: At the January AAS meeting, NOIRLab will host a Special Session on its Astro Data Lab science platform and Open-Data Ecosystem. We invite you to submit Special Session posters on work related to our data missions, including the use of [Astro Data Lab](#) to access catalog data or conduct analysis, [Astro Data Archive](#) to retrieve images or other observations, or the [ANTARES](#) time domain broker to identify variable or transient objects in streams of alerts. Registration opens the week of **21 September**. [Read more...](#)

AAS Science Splinter Session on Gemini LPs: The US NGO, in collaboration with Gemini Observatory, will host a Science Splinter Session on "Extragalactic astronomy with the Gemini large and long programs (LPs)." The event will showcase mature

In this Issue

[KPNO Restart](#)

[Dark Skies Workshop](#)

[CHARA Update](#)

[Astro Data Lab @ AAS](#)

[US NGO @ AAS](#)

[Contact Us](#)

and productive Gemini LP programs in the science area of extragalactic astronomy. Additional talks will focus on instruments and data platforms that are important for future Gemini LPs. [Read more...](#)

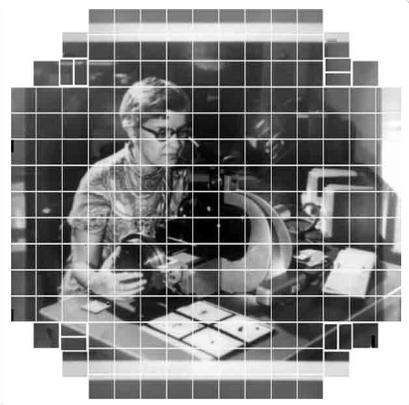
MSE Virtual Meetings in October: The Maunakea Spectroscopic Explorer project will host weekly meetings next month that will provide updates on the latest news and progress and serve as a forum for discussion. Short presentations will cover science, technical design, partnership engagement, and more. Meetings will be recorded and shared online for those unable to attend the live sessions. All astronomers or technical teams wanting to learn more about MSE are welcome. Further information is available at the [MSE website](#).

NOIRLab in the News:

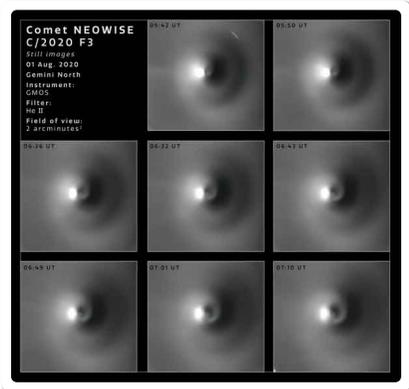
A White Dwarf’s Surprise Planetary Companion: An intact, giant planet has been discovered [orbiting close to a white dwarf star](#), demonstrating that giant planets can survive their star’s demise and settle into close orbits, near the habitable zone. The research, published in Nature, was carried out by a team that includes NOIRLab astronomer Siyi Xu.



Rubin Sensors Capture First Image in the Lab: The [Vera C. Rubin Observatory](#) Legacy Survey of Space and Time (LSST) Camera team at SLAC National Accelerator Laboratory released the [first 3200-megapixel digital photo](#) taken using the array of imaging sensors that will be integrated into the LSST Camera. It is the largest image ever captured in a single shot and a successful test of the LSST Camera’s focal plane, which was completed at SLAC in January 2020.



A Dizzying Show by Comet NEOWISE: Close-up observations of Comet NEOWISE (C/2020 F3), led by Michal Drahus and Piotr Guzik of Jagiellonian University in Krakow, used the international Gemini Observatory to observe gas and dust escaping from the comet over time. [One set of observations](#) displays a spiraling stream of molecular gas that reveals the rotation of the comet’s nucleus.



If you have a NOIRLab-related result that we can help publicize, please let us know! Contact Amanda Kocz (NOIRLab Press Officer, akocz@aura-astronomy.org) or Joan Najita (Currents editor, najita@noao.edu).

Kitt Peak Begins COVID-19 Restart Plan; Chile Restart to Begin Soon

A week ago, on 14 September 2020, Kitt Peak National Observatory officially began Phase 1.0 of its COVID-19 restart plan, with a ramp up of effort at the site and personnel to be added weekly. Continued activity is contingent on COVID-19 infection rates remaining low enough for the work to continue safely.



During Phase 1, the Mayall Telescope and DESI will be prepared for recommissioning, with regular telescope and instrument operations possible by the end of October. Recommissioning will be followed by survey validation, which is expected to continue into December. A detailed schedule of all work to be performed at the Mayall has been developed and undergone extensive review and approval.

WIYN is also preparing to resume operations. If all goes well, science operations may resume—for instruments other than NEID—in late October to early November, with a minimal physical presence (i.e., no non-Tucson observers) at the site. Over the same period, NEID will be prepared for the restart of commissioning, which is tentatively scheduled for December.

In Chile, Phase 1 restart activities are planned to begin the week of 28 September 2020, including activities on Cerro Tololo and Cerro Pachón. If the ramp-up proceeds according to plan, limited night-time operations are expected to resume by the latter half of October at Gemini South and SOAR and by November at the Blanco Telescope.

3

Dark and Quiet Skies for Science and Society

On line

5 - 9, October, 2020

Workshop on “Dark and Quiet Skies for Science and Society”

5-9 October 2020, to be held online

Constance Walker (NOIRLab)

We invite you to participate in the online workshop “[Dark and Quiet Skies for Science and Society](#)”. Organized by the United Nations Office for Outer Space Affairs ([UNOOSA](#)), the International Astronomical Union ([IAU](#)) and the Instituto de Astrofísica de Canarias ([IAC](#)) with support from NSF’s NOIRLab, the workshop will be held **15:00 to 17:00 UTC on 5-9 October 2020**. Large portions of the workshop will be recorded for asynchronous viewing and commenting. The workshop will present for discussion the initial findings from the Scientific Organizing Committee’s five Working Groups over a two-hour period each workshop day:

- Monday 5 October: protection of dark sky oases
- Tuesday 6 October: light pollution impact on the bio-environment
- Wednesday 7 October: protection of existing and future astronomical observatories
- Thursday 8 October: impact of satellite constellations

- Friday 9 October: protection of radio astronomy

This workshop, which is organized at the request of the Committee on the Peaceful Uses of Outer Space ([COPUOS](#)), will be followed by an in-person conference in April 2021, after the workshop report has been presented at the COPUOS [Scientific and Technical Sub-Committee](#) (COPUOS STSC) meeting in February 2021. Based on feedback received, the report will be reviewed and finalized after the April Conference, then presented to the June 2021 COPUOS Meeting.

The **purpose and scope** of the Workshop are to propose to COPUOS STSC a set of recommendations to protect the science of astronomy. If adopted by the United Nations, these recommendations will be presented to local governments for possible action and may become the basis for international agreements. In preparing the Workshop, the Working Groups considered sources of interference that can affect or endanger the visibility of the pristine night sky in all wavelength regimes, and the report identifies measures that will avoid or mitigate negative impacts. Care is being taken to propose recommendations that are both technically and economically feasible and do not affect the main purpose of the potential source of interference, e.g., safety-driven urban illumination, space-based network connectivity, and the like.

To participate in the October workshop, [register](#) by **30 September**. There is no registration fee. You must register in advance to obtain a link. For more information, visit the [workshop webpage](#) or contact Constance Walker (cwalker@noao.edu).

3

MRI Grant to GSU: A Win for CHARA Array and NOIRLab Community

Steve Ridgway (NOIRLab)

The CHARA Array, the largest optical interferometer in the world, will grow even larger, thanks to Georgia State University's success in the competition for a Major Research Instrumentation (MRI) Program grant from the National Science Foundation. A new, mobile telescope, which is funded by the grant, can be positioned as far out as 1 kilometer, improving the limiting angular resolution by approximately a factor of 3. The telescope can also be positioned to enhance u-v coverage for low spatial frequencies, which is especially valuable for detailed imaging of stars with large apparent diameter. While both configurations are scientifically important, another prime goal of the project is to demonstrate technology that can be used for a more ambitious program concept—the CHARA Michelson Array, with larger apertures and improved imaging capability.

The CHARA Array is available for open competitive access through the NOIRLab TAC. While CHARA open access was initially sponsored by GSU to build a community of users, the success of the program led to an NSF Mid-Scale Innovations Program (MSIP) grant to GSU, which currently supports 60 open nights per year. As it enters its second decade, CHARA open access has attracted observing proposals from more



The [CHARA W1 telescope](#), and the light pipes that serve it and the W2 telescope 100 meters away.

than 200 scientists.

Meanwhile, just a few days ago, GSU was notified that they can look forward to another funding award in the new year. We will report on this development and its impact in a future issue of *Currents*.

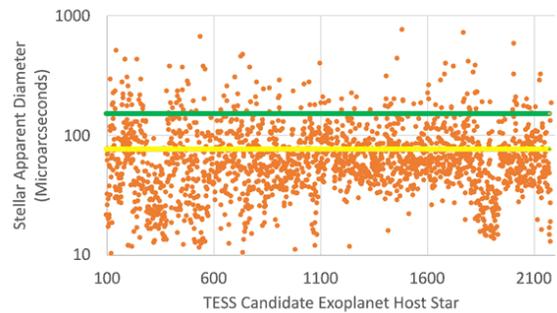
AAS 237 Special Session Announcement: Astro Data Lab and the NOIRLab Open-Data Ecosystem—Invitation to Participate and Submit Posters

Stephanie Juneau, Knut Olsen, Robert Nikutta (NOIRLab), and the Astro Data Lab Team

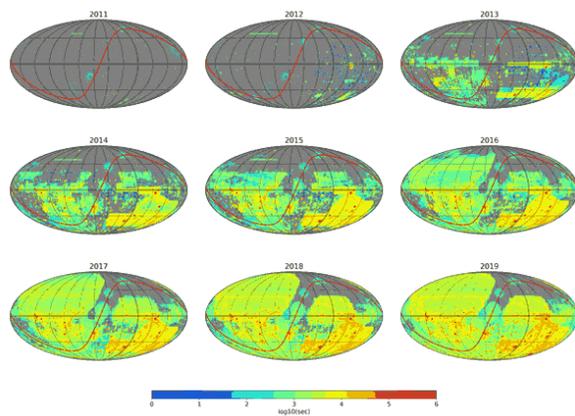
NOIRLab is excited to host a Special Session on *The Data Lab Science Platform and Open-Data Ecosystem at NSF's NOIRLab* at the [237th Meeting of the American Astronomical Society](#). The meeting, to be held **11-15 January 2021**, will be fully virtual. The Special Session will begin with an overview of the Astro Data Lab, its latest advances, and new dataset releases including some of the largest photometric catalogs to date. The Session will then showcase cutting-edge scientific examples that connect various NOIRLab data-oriented services. We hope that session attendees will leave with a greater understanding of the role of science platforms in astronomy, as well as with ideas and inspiration for new research opportunities.

We invite you to submit Special Session posters on any work related to NOIRLab's data missions, which include the use of [Astro Data Lab](#) to access catalog data or conduct analysis, [Astro Data Archive](#) to retrieve images or other observations, or the [ANTARES](#) time domain broker to identify variable or transient objects in streams of alerts.

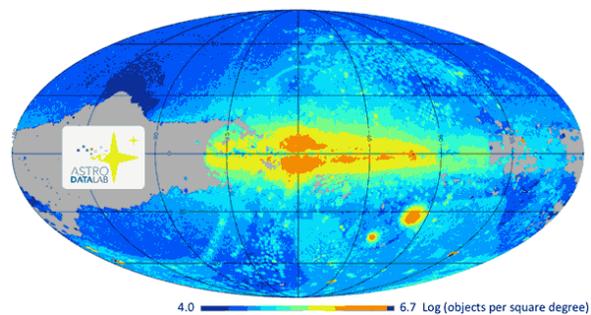
[Registration](#) for the AAS meeting will open the week of **21 September**. We warmly invite astronomers, data scientists, students, and educators of all levels and backgrounds to join us at the Special Session, and to submit a poster abstract on topics related to archive-driven or data-driven astronomy research and education. Please note that a Special Session poster does not count toward the maximum number of contributions for AAS participants.



The [predicted apparent angular diameters of TESS candidate exoplanet host stars](#). The upgraded CHARA array will fully resolve stars above the green line, and usefully measure stars above the yellow line.



[Rapid evolution of sky coverage with NOIRLab's Mid-Scale Observatories \(2011-2019\)](#). These data are available to the community via the Astro Data Archive and the Data Lab Science Platform, which serve catalogs, databases, and sophisticated scientific analysis software and tools. Figure credit: K. Olsen and CSDC/NOIRLab.



[Map of object density](#), created from the NOIRLab Astro Data Archive, as part of the NSC second data release (DR2). Color indicates the number density of objects on a logarithmic scale (blue to red corresponds to 10,000 to 5,000,000 objects per square degree) in Galactic Coordinates. The Milky Way with its central bulge is clearly visible, as are the Small and Large Magellanic Clouds. Some features are the result of variations in survey depths. Figure Credit: D. Nidever and CSDC/NOIRLab.