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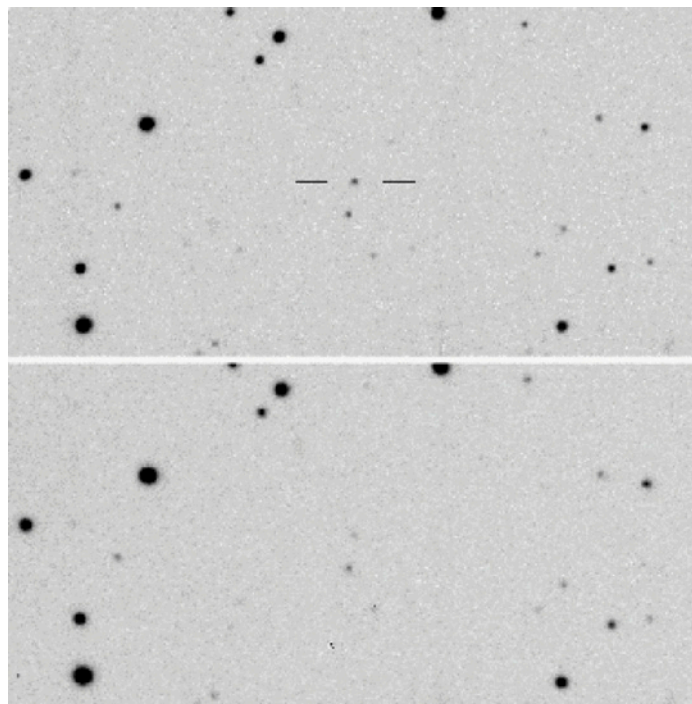


45 Years of Observing at Kitt Peak continued

is not diminished at all by the fact that a 36-inch telescope today could obtain spectra of the same stars in a matter of a few seconds, with no need to take thumbnail-sized plates down to the darkroom to develop them in order to actually see the spectra.

The advent of the National Observatories in the late 50s and early 60s was a sea change in the way observational astronomy was done in the US. No longer did a person need to be among the privileged few with access to a handful of private observatories. If you were a grad student at a Midwestern campus, you no longer needed to struggle with poorly equipped telescopes at mediocre observing sites. Instead, your thesis advisor could call up the Kitt Peak director (this was long before the modern idea of a Time Allocation Committee was introduced), ask for some observing time, and in a few weeks you would be flying out to Arizona for your observing run!

Well, as I write this, the old memories flood back. Sitting in the mountain library one afternoon—yes, in those days, long before the Internet, we spent a lot of afternoons there—and having Helmut Abt and Allan Sandage walk in, positively glowing with scientific energy, legendary god-like figures to a fresh grad student. Swapping jokes and stories with John Huchra on a humid night out in the parking lot. The gentle Art Hoag, whom a colleague rightly called “the salt of the earth.” Having a serendipitous conversation with colleagues at Kitt Peak dinnertime, which led to the discovery of AM Herculis variables. Cloudy nights, with a cook on duty to whip up cheeseburgers on demand, and sometimes a few rounds of low-stakes poker in the lounge next to the kitchen. Al Grauer and I hunched in the darkness on a cold, windy night over a feebly illuminated teletype outputting a stream of numbers every 10 seconds—this was back in the mythological era when astronomers actually worked on the platform out under the real stars—and realizing we had discovered a short-period binary nucleus in a planetary nebula. Volleyball after dinner on summer evenings—yes, there used to be enough telescopes on Kitt Peak and enough astronomers on the mountain to form two teams. Participating in the most important astronomical discovery of 1997 (sorry about the immodesty): the identification of the optical counterpart of GRB 970508, first gamma-ray burst to have its redshift measured, a discovery possible only with the wide field of view of a 36-inch telescope (see figure).



Discovery images for the optical counterpart of GRB 970508, obtained with the KPNO 0.9-m telescope. These are V-band frames obtained on 10 May 1997 UT (top, 1800 s exposure) and 9 May 1997 (bottom, 600 s). Each frame is 138 arcsec high. The GRB counterpart is the variable source marked in the top frame, which brightened by 1 mag between May 9 and 10. For more information, see www.noao.edu/noao/noaonews/sep97/node2.html. (Image credit: Howard Bond, STScI/AURA/NSF.)

I spent the first part of my career at an institution, Louisiana State University, that lacked its own ground-based observing facilities at a top-notch observing site. Without access to the NOAO facilities, it is unlikely that I would have had a successful career in observational astronomy. My gratitude to those visionaries of the 1950s who conceived the National Observatories and founded the Association of Universities for Research in Astronomy is measureless. And I’m already planning my next observing trip to Kitt Peak. 🍷

Three Decades of Coudé Feed Observing

Frank Fekel (Tennessee State University)

Although there are certainly several astronomers who have observed longer at Kitt Peak National Observatory (KPNO), I have now accumulated three decades of starlight on the mountain, almost exclusively with the Coudé Feed telescope (see figure). Over the years, I settled into a typical pattern of three observing runs per year, one each in spring, summer, and fall, while adding a winter run on rare occasions. The beginning of my time at KPNO in the early 1980s was the end of an era, as the astronomical community transitioned from photographic plates, whose forte was extensive wavelength coverage, to digital, solid state detectors with their linearity and greatly enhanced

quantum efficiency. Through the decades, I went from observing at the extremes of ambient outside temperature and constantly guiding my star on the spectrograph slit to the comfort of a warm room, converted from the old plate development room, and an automatic guider. Also, I eventually was able both to reduce and analyze my spectra while I was observing on the mountain and then send the digital data home via the World Wide Web. The Coudé telescope, spectrograph, and detector systems have been extremely reliable. On those rare occasions when I needed help, the support staff came to my rescue. In particular, Daryl Willmarth’s knowledge and general guidance have been indispensable to

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Three Decades of Coudé Feed Observing continued

successful observing runs. The support of the Coudé Feed operations by the various KPNO directors is greatly appreciated.


Access to this changing but stable environment has enabled me to work on long-term projects such as the orbits of symbiotic binaries and close multiple systems as well as a group of radial velocity standards for early-type stars. I should note that the unusual configuration of the Coudé Feed with its independent flat primary and off-axis parabola secondary in a tower across the access road allowed me to observe bright stars as far south as -48 degrees, within 10 degrees of the horizon, opening up much of the southern sky.

The passage of time always produces change. Once upon a time, night lunch was ordered and served hot at midnight. As budgets declined and personnel was reduced, the summer volleyball games after dinner became just a fond memory although the court is still there, ready and waiting. The Astronomer in Residence program, dubbed AIRHEAD, has come and gone. It enabled observers at the telescopes to provide feedback, both positive and negative, in person to a staff member. During some visits to Kitt Peak, it was a pleasant surprise to run into grad school colleagues and post-doc office mates from long ago, allowing me to reminisce and catch up on their lives. The frequency of such intersections has decreased these days.

While the ever increasing technology is in many ways a wonderful thing, there are also some losses. I suspect that the general interaction between those who observe at the various telescopes has decreased. During the good old days, cloudy nights produced a confluence of astronomers in the dining room area or lounge to swap stories and learn about observing



Coudé Feed Telescope used by Frank Fekel on Kitt Peak. (Image credit: Daryl Willmarth, NOAO/AURA/NSF.)

programs on other telescopes. Instead, today most of us are enamored with our laptops and checking the news on the Internet. That isolation is not necessarily good. Once, several years ago, an astronomer from the 2.1-m telescope who was looking for the computer room came into the Coudé area and turned on the room lights at night while I was observing. Since then, I have made it a practice to introduce myself and the Coudé area to the 2.1-m telescope observers. 

Photos from an International Contest that Help You Touch the Sky

Connie Walker

Beauty, it is said, is in the eye of the beholder. When viewing a pristinely dark night sky, most people would agree as to its beauty. When people have lived most of their lives in urban locations and do not have the opportunity to view a starry night sky, pictures can be a good substitute.

The National Optical Astronomy Observatory in partnership with The World At Night organized the Second International Earth and Sky Photo Contest on the importance of preserving dark skies for the Dark Skies Awareness theme of Global Astronomy Month in April 2011. The University of Hawaii's Institute of Astronomy provided the technical support and server for photo submissions. The World At Night (TWAN) is a program to create and exhibit a collection of stunning photographs of the world's most beautiful and historic sites against a nighttime backdrop of stars, planets, and celestial events. Global Astronomy Month is an

annual program coordinated by Astronomers Without Borders for the international astronomy community to share the beauty of the night sky with others and connect with astronomy enthusiasts around the world. Astronomers Without Borders holds international events based on the concept that the night sky is a common meeting place that imposes no boundaries between people.

Within the first three weeks of April 2011, 240 submissions to the photo contest were received from 58 photographers representing over 30 countries. The style of photography showed both the earth and the sky—combining elements of the night sky set against the earth's horizon as a backdrop of a notable location or landmark. This style of photography is known as landscape astrophotography. The contest was open to anyone of any age, anywhere around the world. Nearly 25% of the entries were from the United States. Other major contributors were Iran, Germany,

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