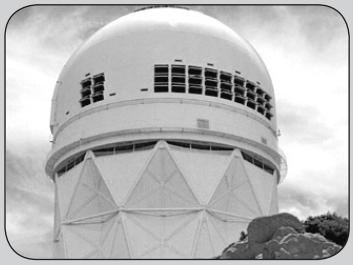


KPNO
Operations

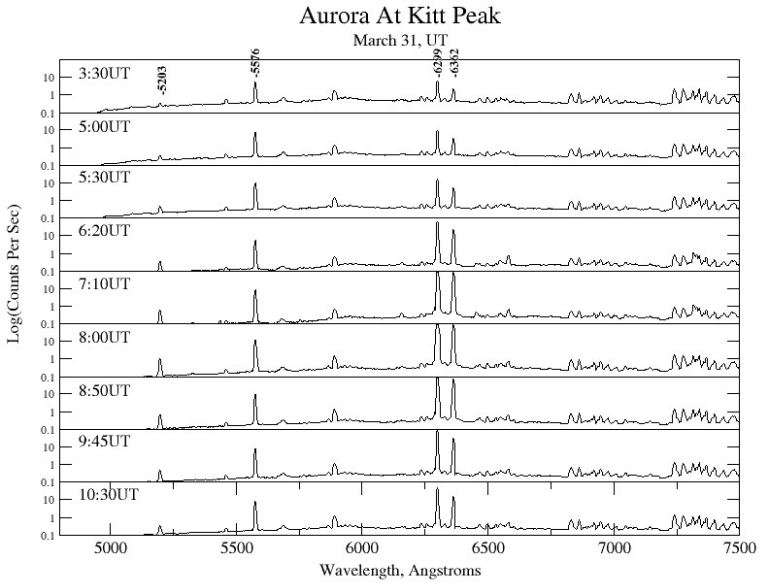
Spectroscopy of "Real" Auroral Lines

John Glaspey and Charles Corson

On 30-31 March 2001, Phillip Richter (Wisconsin) was observing quasar fields on the 3.5-meter WIYN Telescope on Kitt Peak with Charles Corson (NOAO) using the DensePak fiber array and the Bench Spectrograph, when the sky lit up in a brilliant red color. Auroral displays of such intensity are rare in southern latitudes, but strong solar flares during periods of solar maximum make them possible even at Kitt Peak, which is at a magnetic latitude of about 40 degrees, about 50 degrees from the north magnetic pole.

(An interesting collection of color images obtained around the world from this particular event can be viewed on the Web at: *www.spaceweather.com/aurora/gallery_31mar01.html*.)

Although bright sky emissions are never welcome during astronomical observations, particularly those intended for deep, faint object detections, it was interesting to find out what wavelengths were contributing to the auroral light. Luckily for fans of aurora science, the spectrograph configuration in use covered wavelengths from 4800 Å to 10,000 Å. The figure shows a time lapse record of the auroral spectra on a logarithmic intensity scale.



The spectra show "quick look" reductions using the four sky fibers and two random array fibers of DensePak. The first spectra at 3:30UT represents the "normal" sky, prior to any auroral activity seen by the naked eye.

Margaret Edmondson Fellowship

Richard Green

The Margaret Edmondson Fellowship program provides an opportunity for astronomy graduate students to gain hands-on experience with instrumentation through support of extended visits to Kitt Peak to work at the WIYN Observatory. This year's fellowship support goes to Brent Bryan of Yale University. Bret received his B.A. in Astronomy/Physics and Mathematics from Whitman College in Walla Walla, Washington in May 2000. He is working this summer with Chuck Claver on the assembly, integration, and lab testing of the WIYN Tip/Tilt Module. Brent's efforts are particularly appreciated because a critical period of assembly and testing coincides with the optics realignment of the 4-meter after aluminizing, requiring Chuck to be in two places at once.

The Fellowship was founded by a generous donation from Dr. Frank Edmondson, Emeritus Professor of Astronomy at Indiana University. The gift memorializes his wife, Margaret Russell Edmondson. (See the March 2000 Newsletter for further details.)