

## NEAF – 2010 Impressions

Here are some impressions from visiting the Northeast Astronomy Forum 2010 on Saturday, April 17, 2010. The annual show is held in Suffern, NY outside of NYC. Upon arrival, one could see that the attendance was high from the parking lot being near full. The organizers said that attendance was up 30% over 2009. Alt-Az Initiative associates seen there included Al Nagler from Tele Vue; Joe Haberman, Richard Hedrick and Kevin Iott from PlaneWave; Oliver Thizy from Shelyak Instruments; and author Richard Berry. IOTA members seen there included Bruce Berger, Frank Suits, Al Carcich, Glen Moyer, and Gary Jacobson.



NEAF 2010 Show floor (left side from entrance level). The total floor was about twice this size.

## Big Bear

Philip Goode gave an interesting talk about the Big Bear Solar Observatory. Their 50-cm scope was replaced with a 1.8-m Coudé focus one. He described the off-axis parabola mirror making process (Kodak and Steward) and the time that it took to first light taking many years. They used a Computer Generated Hologram (CGH) in the interferometer to properly figure the mirror surface. Surface errors between 35-nm to 200-nm RMS delayed progress for a year until they tracked the problem to some sort of alignment problem that a pentaprism fixed. To make the off-axis parabola, the stress laps deflected the mirror by 2-mm.

## Monster Scopes



Denise Holenstein by Orion 36-in Alt-Az scope. The Orion construction (right) is a sandwiched Aluminum-plywood.



Great Red Spot 40-in Jupiter Telescope uses forged aluminum trunions.

The truss poles in the Orion scope are two-part carbon fiber. When tapped, they vibrated, unlike the beefier aluminum poles in the Jupiter scope. I have no idea if the stiffness difference matters optically at the focal plane. The marketing literature that Great Red Spot handed out is critical of the Orion scope construction.

## Tele Vue

Al Nagler showed me their new 3.5-mm Ethos eyepiece. It has an amazing 100 degrees FOV. Also, we discussed their Paracorr coma corrector. He plans to extend the device to faster focal ratios (around  $f/2.5$ ) so that large Dob users can observe at a reasonable height. He has no plans to work on spherical correctors.

## eShel Spectrograph

Oliver Thizy from Shelyak Instruments and I discussed their eShel echelle fiber-fed spectrograph. The eShel is an R10,000 device that has a 50-micron slit and is designed to operate at  $f/6$ . He says approximately 35% of the light will be lost when operating at  $f/4$ . The largest scope that it will work with is 1-m. The standard fiber is 20-m, but they can put pieces together for other lengths. The fiber injection unit mounts on the scope and uses a mirror with a hole plus guide camera. Calibration is provided by a Thorium-Argon lamp. List prices in Euros (exclusive of VAT) are around 5000 for the eShel, 1600 for the FIU, 1900 for the calibration lamp, and 500 each for the fibers for the FIU and lamp.



Oliver Thizy holding the eShel and the fiber injection unit (FIU).

Oliver recommends that an array of four 1-m scopes combine their spots into a single one for feeding into an FIU. An alternate approach may be to create a five-fiber combiner. Four fibers from FIUs at each mirror focus, plus one from the calibration lamp, would be aligned in a row and fed into the spectrograph. Some optical work would be needed to keep orders from overlapping. Oliver will be at RTMC to discuss further the options.

## PlaneWave Instruments

PlaneWave has come a long way in a few years and now has a large line of scopes and mounts. Every piece of equipment that they make has instantly recognizable quality. Sales have been encouraging according to Rick and Joe and they are beginning to get considerable repeat customer business. The corrector on the CDK700 has only about 2% transmittance losses. R&D continues on the 1-m and 1.5-m scopes.



Bruce Holenstein and Kevin Iott in the PlaneWave booth. We are standing by the new Ascension 200 German-Equatorial Mount - 275 lbs (125 kg) Payload w/high-resolution encoders. I believe it was a CDK17 (17-in aperture) on the mount.

## 2011 Workshop?

It would be a good location for an Alt-Az workshop/meeting next year. Many Alt-Az Initiative and IOTA members already attend this event.

Note - My digital camera broke before my first picture of the day so I used the camera in my BlackBerry for all of the photos. Unfortunately, the picture quality suffered as a result.

Bruce Holenstein, April 18, 2010