arcseconds) by the relation :

$$FWHM = (0.987\,\lambda/r_0) \times 206265$$

The rotation shearing interferometer is particularly well suited to fringe visibility measurements since in a single frame a full range of shear distances is covered. Shear lengths increase linearly with distance from the center of shear rotation, starting from zero shear at the center, and extending to some upper limit, which depends on pupil size and shear angle, at the edge of the pupil.

A typical fringe profile is shown in Figure 15. A fit of the predicted fringe visibility to the fringe envelope provides the seeing measurement.

Some results

During the June, 1989 seeing campaign we observed fringes at the f/36 infrared focus for a few hours on each of 10 nights while sharing the telescope with the FTS. Many hundred interferograms were recorded. To date, after writing the data reduction routines, we have reduced a small fraction of the data. The very preliminary graph in Figure 16 shows r_0 values for the night of June 17-18, 1989. The FWHM ranges between 0.5 arcseconds and 1.1 arcseconds at 6563 Å with 85% of the seeing better than 0.67 arcseconds. These are very preliminary data. A report on the complete data set will be published later. It is noteworthy that, by combining the Hartmann-derived optical image size and the seeing data given here in quadrature, the image FWHM should have been better than 0.7 arcseconds more than 80% of the time at the naked prime focus.

Some words of thanks

Many individuals have been involved in the shearing interferometry program. Claude and Francois Roddier have given generously of their time in showing us how to attack the problem and given us innumerable hints for the data reduction procedures. Stephane Beland wrote most of the data reduction software and participated in much of the observing, as did Steve Hill. Wiley Knight designed a beautiful set of mechanics based on the Roddiers' interferometer, and Dan Sabin did his usual first-class job in fabricating and assembling the instrument.

Derrick Salmon

The Dome Systems Control Project

A new system is being implemented in the observatory to allow remote control and status monitoring of the shutter, the windscreen and other devices located on the rotating part of the dome.

At present, the only information transfer between the fourth floor observing area and the moving dome level is a radio link transmitting weather data from a number of sensors to a computer. It is almost at capacity and cannot be expanded to meet our needs.

Design

The originality of the design resides in the use of the power lines to establish a communication path between the operator's console, on the fourth floor and the controller, located on the dome catwalk. This controller is an industrial-grade, PC-AT clone programmed in C language and interfaced to its environment through a bank of opto-isolated relays. It can also receive analog signals from encoders and sensors. The system is expandable and flexible enough, so that it could be accessed via a terminal, a dedicated manual console or a computer through the network. The final system will control and display status of the shutter and windscreen absolute positions, as well as important status signals.

Devices Controlled and Monitored

This system will allow control of the weather tower heater, dome louvers, windscreen and shutter positioning, and flat field lamps. In addition it will monitor the status of the catwalk gates, dome crane, windscreen slack cable sensor, and the weather station .

Conclusion

This new CFHT equipment should help provide a smoother, more efficient and safer operation of our telescope. This has also been the pilot project using STD-Bus controllers. Future projects including the new Coude spectrograph and MOS/SIS may be based on this technology.

Philippe Papasian

Telescope Tape Policy Changes

With the successful switch to optical disk for CFHT's permanent record of telescope observations we can now allow observers to take home their original telescope data tapes. Observers have the following options for taking their data home:

- You need only pay for CFHT supplied tapes which are removed from CFHT.
- You may purchase tapes at CFHT or bring your own.
- You may take the telescope data tapes home. You are no longer required to make a copy and leave the originals at CFHT.

We also offer the following options in Waimea after the run is over:

- You may concatenate telescope data tapes and you will not be charged for the telescope data tapes used.
- You may make copies of tapes.

We wish to thank our visiting observers for their patience over the years and hope that this new arrangement will be of benefit to all. Users with questions or requirements outside of those described above should contact their support astronomer.

Bob Link and Rick McGonegal