

model which is so useful in today's computing environment. Currently, the new CCD package allows the user interface software on one computer (the client in this case), to exchange messages with a CCD server program, running on a different computer, which is actually controlling the CCD camera.

The goals for the new OCS are to 1) hide explicit knowledge of communications complexities from applications programmers, 2) allow fast status reply ("turn-around") for subsystems, 3) provide a storage facility for observing sequence information, and 4) facilitate distributed processing including remote observing.

Future uses for the OCS might include the TCS user interface computer querying the star-catalog server program, residing on a Sun computer in Waimea, for the nearest guide star. Or perhaps a user interface package, executing on a workstation a continent away, controlling a HP data acquisition system on top of Mauna Kea.

Currently, the OCS functions on both HPUX (revision 7.0) and SunOS (revision 4.1) operating systems. At the heart of the system is a TCP/IP-based software package called MUSIC. This software was originally written by programmers at Lick Observatory and then both ported to HPUX and encapsulated into the OCS at CFHT.

For visiting instruments interested in communicating using the OCS, or communicating with observatory servers, there are specifications and documentation available.

J. Kerr

Limiting Observing Conditions

With an observatory located at approximately 14000 ft. elevation, there are a number of reasons why, from time to time, observations with the telescope have to be curtailed or at worst terminated. Not necessarily in order of frequency or high safety risk, they are as follows:

High Winds

For the last 15 years or so our weather data has been taken from a small tower mounted on top of the dome and about 1 meter from the edge of the slit. Well, last week that tower was severely 'cut down,' ie. from about 3 meters to about .5 meters. No equipment on the tower now projects above the outside surface of the slit edge, hence observations can be done now even if there is ice buildup on the dome. [within reason, of course]. Wind correlation between the old and new tower [situated approximately 50 meters away from our building to the South] have been completed and the only instruments presently mounted at the top of the dome are a relative humidity sensor and a temperature probe. Data from those will continue to be recorded until September 1992. In general, the CFHT closing wind speed, as taken from the new weather tower is 50 knots. [old tower - 65 knots].

Note: Height of old tower = 42 meters; new tower = 15 meters.

Dust

Generally, with high winds we can expect dust. This is normally detected by shining a strong flashlight through the dome slit and if dust is airborne then one can see it. This is

normally checked by the T.O. and hence he would determine if conditions were such that the dome shutter has to be closed.

Rain/Snow

If the relative humidity is above 90% and rising then it would be prudent to close the dome and of course close the upper and lower louvers.

Ice

Now that the old weather tower has been 'restructured', the danger of ice falling into the dome slit has been greatly reduced. Nevertheless, caution must still be taken to ensure that ice buildup on the actual shutter is not going to fall into the dome as the shutter opens. There is no diverting lip on the leading edge of the shutter to prevent this.

Power Outages

The local power, i.e. HELCO, has been very reliable to date, since the line across the Saddle Road is usually the last to go down when power cuts or rolling blackouts are occurring. Should we be unfortunate to lose the HELCO power, then we have a very good 250 Kw diesel generator in our building which can be up running and on line within approximately 15 minutes.

Illnesses

From time to time people at the summit [observers - even TOs!] can become ill either from altitude sickness, something they have eaten or just the combined effects of altitude and an illness they had at sea level, now exacerbated by trying to work at 14000 ft. or perhaps still feeling the effects of jet lag. [astronomers arriving from overseas!] in any case, if the observing team is small, then it may mean that the T.O., or vice-versa, will have to transport the person who is ill off the mountain so this would result in the facility being shut down.

Accidents

Fortunately we have not, to date, had any serious accidents at night on our telescope. However, we have had some 'near misses. I strongly advise all staff to be extra careful at nighttime in our dome and building. Obviously the dome is in total darkness and the remainder of the building is illuminated only by adequate lighting. One thing that has to be stressed is that all new observers to our facility must be given a familiarization tour of our dome and building [usually done by the T.O.] before being allowed to carry out procedures, especially in the dome, such as using the P.F. access cage, switching on or off flat field lamps etc. Also there will be NO dome rotations while a person is moving around the dome mezzanine area at night by himself.

Instrument Dimensions

Long or bulky instruments mounted at Cassegrain focus can sometimes require restrictions in Declination pointing, and hence we have some general, 'rule of thumb' criteria to determine possible restrictions. A crude check is to measure from the concrete floor to the underside of the instrument being mounted and if that dimension is less than 1500 mm then the telescope is driven manually North and South to check clearances before any computerized balance programs are done. Other factors that needs to be taken into account when determining clearances are whether the instrument is mounted off axis and will Cassegrain rotation be required.

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