

# Viewpoint: The State of the Observatory

By mid-1982 the CFHT has begun to grow into a more complete installation. Until now, the visiting astronomers had been using a rather rudimentary facility, limited mostly to prime focus imagery and coude spectroscopy with the Reticon detector. The last six months have seen commissioning of the f/36 IR focus, the f/8 Cassegrain secondary and the definitive optical alignment of all four foci. The CFH telescope is now optically complete.

The basic computer control of the telescope has been in semi-regular use for nearly one year. Crashes still occasionally occur but rarely have significant impact on astronomical work. In the months to come one of our priorities is to tune-up the control hardware to peak performance and then to complement the more sophisticated software packages (full pointing corrections, scanning, catalogs...). Extensive pointing tests have already indicated that an ultimate accuracy of some 2 arc seconds is achievable.

The commissioning of new instruments must necessarily await the final tune-up of the telescope itself. But initial sky tests have taken place, over the last six months, of the InSb infrared photometer, the Fourier Transform Spectrometer at the IR focus and the visible photometer at the f/8 Cassegrain focus.

This accelerated progress of the CFHT installations is the direct result of significantly increased financial contributions to the operating budget from NRC and CNRS. Over the last twelve months, the Board has approved the creation of six new positions involved with the maintenance of the observatory, thus boosting this contingent from 17 to 23 people under the supervision of four engineers. This increased work force, a more adequate operating budget and - oh yes! - the ongoing construction of our new Base Facility in Waimea constitute very positive milestones in the progress of the CFHT.

But this progress may still appear too slow to some visiting astronomers. Firstly, one should not underestimate the complexity of certain tasks. At a

relatively new observatory, the commissioning of a new instrument, for instance, involves not only the instrument itself but also a number of peripheral systems which are themselves being fully tested for the first time. Second, and perhaps more importantly, the optimization of the telescope itself is proving to be a far more challenging and time consuming job than was, perhaps naively, expected some two years ago. Thus, the schedules of instruments commissioning has had to stop in order to attend to the more immediate task of providing a reliable and efficient telescope. This has become our primary goal in 1982, to which all other actions must now take second place.

Much of the enormous amount of effort being thus invested will not be immediately apparent to casual observers, except through the progressive disappearance of minor "glitches". But in time this investment will richly pay off. For instance, when a fully developed and tested Cassegrain environment becomes available, commissioning, servicing and operating instruments at that focus will become much easier tasks. The recent major improvements of the prime focus mechanical assembly led to dramatically better image quality over a wider field and more reliable instrument installation and operation at that focus. Similar progress is being made on the upper ends handling system (another "invisible" to visiting astronomers), on the primary mirror cover (quite visible, this one!) and on a long list of electro-mechanical, electronics and software systems.

Step by step, over the past and next semesters, the basic telescope systems will finally attain their full, reliable maturity. Then could begin a flurry of more glamorous activities whereby new instruments and new research techniques will become available at the CFHT.

In the meantime we will be content to juggle continuously with three upper ends feeding four foci to which can be attached a slowly increasing contingent of instruments while, carefully nursed by the telescope operator, the 3.6-m CFH telescope fledglingly tracks across the Mauna Kea sky.

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The Canada-France-Hawaii Telescope Corporation (CFHT) is a joint organization of the National Research Council of Canada (NRC), the Centre National de la Recherche Scientifique of France (CNRS), and the University of Hawaii (UH).

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