Viewpoint: The State of the Observatory

On March 14, 1981 the CFH telescope celebrated its first anniversary of astronomical use. This will remind visiting astronomers that the instrument is still in its infancy and will require tender care for a while yet. But our telescope is steadily learning to walk and serious diseases are now less frequent. Some painful difficulties with the dome shutters, early in the year, have been eliminated. CFHT's operational instrumentation, although a still meager fraction of the complete list, has performed reasonably well in recent months. Observing at the CFHT is still far from comfortable but astronomers generally go home satisfied and with a great deal of good data. The excellent, and at times spectacular, seeing at Mauna Kea has caused many CFHT observers to marvel at the quality of the site. Much work remains to be done around our own installations to take full advantage of the site characteristics; this is high on our priority list.

The telescope is now rarely subject to major crises but must still be educated out of some annoying misbehaviours. Tracking irregularities, glitches and oscillations are still reported. Achieving proper telescope balance with heavy loads at the prime focus is difficult since the tube is naturally top heavy. Telescope and instrumentation cabling remain to be completed and fully tested, and the cable wrap at the prime focus occasionally chews up wires and connectors. A new prime focus pedestal under construction will improve the situation and allow finer optical adjustments. Mirror exchange in the coudé train has been made easier by the recent commissioning of three remote controlled turrets. Oil leaks and squirts from the hydraulic pads have been largely contained. The primary mirror cover still sags down at the top in the open position and will require modifications.

The pointing accuracy of the telescope will largely depend on the skill of the operator until a full correction algorithm is implemented in the control system. This is planned for late 1981. Pointing errors are currently less than 30" at the prime focus while at the coudé they can reach 2' at large zenith distances. The newly available telescope control system and dome encoder allow a gain of time and better safety during the observation. Work has started to increase the dome rotation speed by a factor of two, the current 45°/min having been judged frustratingly slow by many observers.

None of these imperfections impede good quality astronomical work but we still have a long way to go before preventive maintenance of basic systems becomes the main preocupation of our technical crew.

Additional support staff has recently become available: a fifth resident astronomer, an electronics and an instrumentation technician. A modest machine shop has been installed in the garage in Waimea. This much needed help and reorganization has considerably improved our capacity to make measurable progress, but technical overloads still occur.

In planning our activities for the coming months we believe that top priority must go to the support of visiting astronomers. This should be achieved by making the currently available systems and instruments as reliable and efficient as possible. Our goal is to establish a solid base - telescope, dome systems, fundamental instrumentation, logistic - on which more sophisticated future operations can rest. High priority will then be given to the commissioning of new equipment which is almost ready to go: coudé train, IR upper end, cassegrain bonnette and environment. Everything else - and that includes a lot of new instrumentation - will have to wait until the basic systems and current projects have reached a satisfactory operational level.

Now that the CFH telescope has seen four seasons, and that many pioneer observers are coming back for their second or third runs, we expect them to witness a progressively better and more satisfactory status of the operations on Mauna Kea and in Waimea. It will not be comfortable for a while yet but we are confident it already makes the CFHT one of the most valuable telescopes to use.

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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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