

The New Data Reduction Facility

In June, 1983 CFHT received the final approval by the Board of Directors for the funding of the scientific data reduction computer destined for corporate headquarters. The primary functions of the computer will be to provide a facility for visiting astronomers to conduct preliminary data reductions and to provide staff astronomers with full computing capabilities. Obviously many additional benefits will be realized from such a facility.

After many discussions the choice of a DEC VAX system has been made. The central processor will consist of a VAX 11/750 with 3 Mbytes of memory and over 600 Mbytes of disk. The configuration will support an image processor, 3 tape drives and an array processor. In addition 9 console terminals, including 3 graphic terminals and a Pen Plotter will be part of the configuration. Eventually, local networking equipment may be purchased to interface the VAX and the HP 1000 development computer. In order to cope with the anticipated work load, a new system manager position has been created. The manager will participate in the system installation and will be responsible for system maintenance and service, visitor computer support, and acquisition and upgrade of data reduction software.

The system is being purchased from Pacific Com, a Honolulu based company. Delivery of the hardware is scheduled for the end of September, and should be fully operational by November, according to Pacific Com. All maintenance and service will be handled through Pacific Com, which is particularly advantageous for CFH, because the system contains several "third party" components.

We feel that the arrival of the VAX system will finally allow CFHT to be a bona fide astronomical research center.

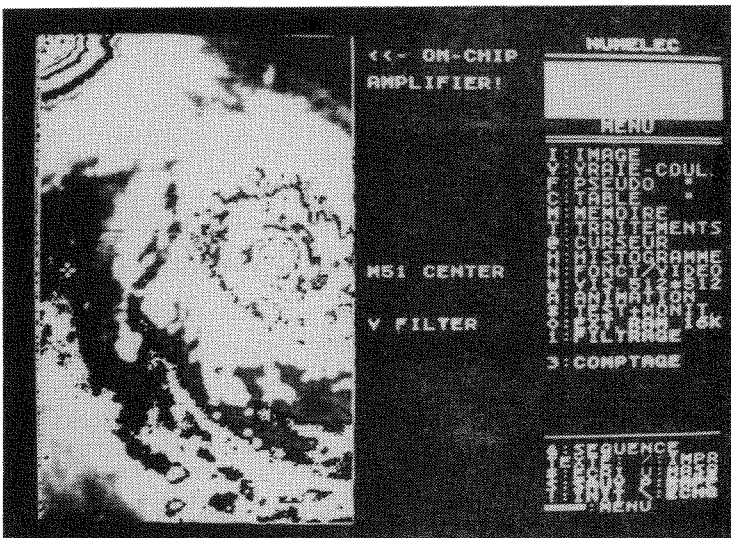


Image of M51 in 60 sec integration through a V filter obtained with the CFH-CCD during the engineering tests. The new computer will be a great help to handle the large amount of data produced by such observations.

A crucial problem: Maintenance of CFH Instrumentation

In order to take full advantage of its site, the CFH was designed as a multi-purpose telescope having an instrument complement which is larger than that of any other major telescope in the world (at least 20 principal instruments). In contrast, the technical/scientific staff assigned to this instrumentation does not exceed 12 persons - patently not enough to carry out the commissioning, maintenance and necessary upgrading. This problem, which was not sufficiently addressed at the time of instrument definition, is now upon us. New arrangements must be found for maintaining CFH instrumentation, and three options must be seriously considered:

- 1.- Reduction of the number of available instruments.

The Corporation can take care of about a half dozen major instruments. Perhaps it would be wiser to concentrate the use of the telescope on some "CFH specialties" such as high resolution imagery at any wavelength, infrared spectrophotometry... and thereby select the instruments which will be supported by CFH.

- 2.- Increase of the technical/scientific staff.

Some 20 new positions and much new equipment would be required to fully support the complete list of instruments as defined at present. This would entail a capital expenditure of \$1 to 1.5 million and an increase of \$0.8 million in the operating budget.

- 3.- Partnership between the Corporation and the Canadian, French, and Hawaiian Instrumentation Groups.

In this option, full responsibility for the maintenance of an instrument would be given to the group which had built it. In this way, the people involved would be those who know the instrument best and who presumably also are the most interested in having it work well. The true cost would be comparable to that of the previous option, but it could be accommodated more easily within the existing structures.

This partnership would be based on a principle of collaboration which must be fully accepted by the parties concerned. It would bring into reality a CFH community which extends beyond the staff of the Corporation in Hawaii. It implies the need for some practical arrangements for providing the services of the groups to the Corporation. We should therefore consider in detail genuine service contracts between the Corporation and the national institutions. An amount estimated at \$100 K would have to be taken from the annual CFH budget to pay for travel, shipping and living expenses in Hawaii.

This last solution appeared to the Scientific Advisory Council as the most realistic and the most valuable. But it is important to know at this point how the members of CFH community react to these proposals. All comments are welcome in this debate which is essential for the scientific efficiency of the CFH Telescope.