



Figure 2: A group of students (A. Lançon, N. Caon and J. Eislöffel) reducing CCD direct images at the IHAP station of the 1.20-m telescope.

the other three with the 1.52-m telescope for one night each whereas all groups had one night at the 1.20-m telescope. With only minor exceptions, the weather cooperated during all nights.

The observing programmes had mostly been worked out by the group tutors but in some cases also included proposals made by the students. The targets ranged from IRAS galaxies over open star clusters to  $\beta$  Cephei stars, close X-ray binaries, OB supergiants, and FU Ori stars. The scientific subjects helped to provide a realistic background to the practical work done. But the main emphasis was on the latter: How does one select targets? Where do coordinates and finding charts come from? What other information is needed at the telescope? How does one estimate exposure times? What calibration sources are available; which ones are required for a given programme? How many different instrument set-ups can I handle in one night? In short, all the do's and don'ts of astronomical observations on which standard text books but also many user guides quit. Most programmes were on purpose not very ambitious in order to leave sufficient room for (minor) errors which so often are the most efficient teachers.

One of the lessons which every student learned (and even some of the tutors were reminded of it) is that the time required for the proper reduction of data exceeds the time for their acquisition by a large factor. The students responded to this challenge with considerable diligence. All computers were given a hard time, often nearly round the clock. The observations were tested for instrumental defects, calibrated and counter-checked, compared to litera-

ture data, and eventually put into the form of scientifically meaningful and esthetically pleasing viewgraphs. In this way, the students were exposed to a fairly broad range of applications software in MIDAS as well as IHAP.

The only major break was on Sunday, July 22, when an excursion to the nearby town of Forcalquier and its citadelle and a picnic close to the old monastery of Ganagobie provided a welcome opportunity to rest for a while.

On the last day, July 26, each group presented their work and results in a short talk of about 20 minutes duration to the other participants. Although rumours had it that some groups hardly saw their beds in the preceding night, the presentations made were without exception of a very high standard and well reflected the intense learning process of the past ten days.

Since OHP could provide state-of-the-art instruments with modern computer-based user interfaces plus both MIDAS and IHAP for data reduction, every student should now be in a good position to conduct observing programmes at La Silla or elsewhere on his/her own. This we had defined as the primary scope of the Summer School.

As stated above, the tutors guided and supervised the work of their respective groups. But there should also be a more systematic introduction to the physical basis and the practical design and operating principles of the types of facilities the students were using. This was provided by a series of eleven one-and-a-half hour lectures which were given by various renowned experts (see box). The students interacted with the speakers in lively conversations, and most lecturers kindly spent some extra

days at OHP for in-depth discussions. Indisputable highlight was a joint, unscheduled presentation by Joe Wampler and Ray Wilson (both from ESO) which they had offered in order to bring the students up to date on the symptoms and interpretation of the optical anomalies of the Hubble Space Telescope.

The programme was rounded off by a visit of Ray Wilson to one of the telescopes where he explained what can be inferred about the aberrations of a telescope from the image of its pupil. Finally, through the kind invitation of Prof. Michel Mayor of the Observatoire de Genève, the students had the opportunity to complement their experience with modern instruments by watching CORAVEL being used at the Swiss 1-m telescope.

In many of the applications received for the Summer School, a strong interest was expressed in working with colleagues from other countries in an international environment. With nearly a dozen different nationalities, this desire was well satisfied. So, at least for the duration of the Summer School, one could speak of the OHP as a European Northern Observatory. The enthusiasm and good spirit of the students, the untiring efforts of the tutors, the helpfulness of numerous OHP technical staff, and the skill of the lecturers in explaining complex subjects made this Summer School a very rewarding experience for the organizers. We cordially thank them all.

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The Proceedings of this first ESO/CTIO Workshop, edited by B.J. Jarvis and D.M. Terndrup, contains 376 pages and is offered at a price of DM 40.- (including packing and surface mail).

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