making it quite easy to pick out the trails of the asteroids among the round images of the stars. This has given for each of the observed fields almost 150 newly discovered asteroids. Figure 3 is a copy of a part of a plate taken during August 1979. The figure shows the trail of an ordinary main-belt asteroid, 1979 QU2, and that of a faster-moving object, probably an Amor asteroid (an asteroid with perihelion well inside the orbit of Mars).

Additional plates are taken for positions in order to derive orbital elements, and thus distances, and, from that, estimates of the diameters of the asteroids. The positions on some of the plates from 1979 were measured with the ESO Optronic machine, giving nearly 800 positions of some 140 newly discovered asteroids. Since this part of the programme still is in a preliminary phase, it is too early to draw any conclusions about the physical nature of the small asteroids.

Mapping the Southern Sky with the ESO 1 m Schmidt Telescope

H.-E. Schuster, ESO

To any astronomer, professional or amateur, the Palomar Observatory Sky Survey (shortly POSS) is a well-known and useful tool. The whole northern sky is photographed and prints from these photographs are available in the libraries of nearly all important observatories and astronomical institutes in the world.

Such a collection of photographs represents a sort of inventory of the universe, at least of the part accessible with our present instrumentation. In a simple way, this photographic inventory serves just to see what we have in the sky. What stars, clusters, nebulae, galaxies are there? Later, having done a selection, astronomers may concentrate on single objects or classes of objects for a deeper detailed investigation.

It is not necessary to explain here at long the importance and usefulness of the Palomar Sky Survey. In a certain sense it has become a "classic" already and has set a landmark and a high level in the field of sky mapping. Its only disadvantage, if one may say so, is the fact that it is limited to the northern hemisphere.

So, since the end of the fifties when the POSS had been finished and distributed to the astronomers, there has been the wish and the need to have a similar atlas of the southern sky.

One large obstacle to such an atlas was the fact that there was no adequate instrument available in the south for making the survey.

The instrument best fitted for such a photographic survey is a wide-angle camera with the following three important specifications:

(1) as already mentioned, it should have a wide field, otherwise it would be necessary take thousands of plates to cover a certain range of the sky, instead of only a few hundred;
(2) it should be powerful in "light-catching", in order to reach faint objects, or, roughly spoken, it should look into the sky as deep as possible;
(3) and the plate scale should be reasonably large as for extended objects, galaxies for instance, a fair resolution would help the user of the survey to try a first morphological classification of the objects.

The instrument of best choice is then, in consequence, a Schmidt camera.

There have been Schmidt cameras in operation in the south since long, but of smaller size and not as powerful as the Palomar Schmidt telescope. Once the northern atlas had been completed, one wished of course not only just a continuation to the south but a continuation which would be compatible. That means: the same field size, or nearly the same, the same limiting magnitude, or better if possible, and the same scaling in order to have comparable overlapping fields.

During the seventies, two large Schmidt telescopes came into operation; they had exactly the same scale as the Palomar Schmidt (1 mm = ~ 67 arcseconds) and fulfilled also the specifications of power and field size. These are the United Kingdom Schmidt telescope, based in Australia, and the ESO 1 m Schmidt telescope on La Silla. Both telescopes are now engaged in producing maps of the southern sky similar to the great example the Palomar Survey has set.

The laborious task has been distributed in such a way that both telescopes are busy with maps of different colours. ESO has taken the part of producing an atlas in the RED range, which is being realized on the fine grain KODAK IIIa-F emulsion behind a filter RG 630. In this way, a band-pass is defined from

Second ESO/ESA Workshop on the Use of the Space Telescope and Coordinated Ground-based Research

ESO, Garching, 18–19 February 1981

Optical Jets in Galaxies

List of Topics

— Introduction: Jets and other evidence for outflow in active galaxies
— The ST – important parameters for planning observations
— Imaging observations of optical emission from jets
— Spectroscopic evidence for collimated outflow in active galaxies
— The M87 jet
— Centaurus A
— QSO jet: 3C 273 and other QSO jets
— Coma A
— Radio emission from jets
— X-ray emission from jets
— Relevant theoretical aspects
— Discussion
— Concluding remarks

Organizers: F. Macchetto, ESTEC — G. Miley, Leiden — M. Tarenghi, ESO.