

**6DF UPDATE**

Fred Watson &amp; the 6dF Project Team

The 6dF robotic fibre-positioner for the Schmidt Telescope has achieved a number of milestones over the last few months. During May, Critical Design reviews were held for the mechanical and electronic design of 6dF, both with satisfactory outcomes. A software CDR will follow later in the year.

Fabrication work on the (r,theta) and gripper mechanisms continues in parallel with OzPoz, while components are now being manufactured for the field-plate units. These units are specific to 6dF, and will be interchangeable between the positioner (for fibre configuration) and telescope (for observing). They contain not only the field-plates themselves, but the 154 fibre retractors and a rotation mechanism – all within the compass of a standard Schmidt plateholder. Because the field-plates must match the focal curvature of the telescope with a high degree of precision, some hand-finishing is required, and this is being undertaken in the Epping workshop.

Budget pressures on the instrument have necessitated a de-scoping from three field-plate units to two, a reduction that will have minimal impact on survey operations. On the other hand, significant gains will be made if a proposal to replace the existing CCD chip is implemented, as recommended by ACIAAT at its recent meeting. The instrument is still on track for a commissioning phase starting at the end of next year.

Meanwhile, the 6dF Galaxy Survey Advisory Group is preparing a draft survey plan for submission to the AAT Board at its next meeting. The group has international representation (from Australia, UK, USA and France) and is chaired by Matthew Colless (ANU). Its survey plan will contain recommendations on the best strategies for the two galaxy surveys that 6dF will undertake (redshift survey and peculiar velocity survey). Such issues as survey specification and management, telescope time requirements and quality assurance are being considered. Input catalogues for the survey will be drawn from the 2MASS and DENIS all-sky near-infrared surveys currently underway.

Finally, like most things to do with the AAO, 6dF is attracting media attention, and a team from the ABC's 'Quantum' show has just completed filming a short segment on the instrument for their next series of programmes.

More information on 6dF can be found at:

<http://msowww.anu.edu.au/~colless/6dF/>

**H-ALPHA SURVEY**Quentin Parker (IfA, U Edinburgh)  
& S. Phillipps (U. Bristol)**Summary**

The AAO/UKST H-alpha survey uses probably the world's largest optical interference filter to undertake a survey of ionised gas with an unprecedented combination of coverage, resolution and depth. Scanning of the films with SuperCOSMOS and the provision of an on-line atlas will likely be the prime method of data release to the astronomical community.

**Basic Points**

- The AAO/UKST H-alpha survey is non-proprietary and is the only new, fully supported AAO/UKST photographic survey.
- There are 233 fields in the galactic plane H-alpha survey and an additional 40 in the Magellanic Clouds together with the associated short red (SR) exposures.
- The survey is being undertaken on non-standard 4-degree field centres due to the physical nature of the interference filter (has a circular aperture on a square substrate) to ensure adequate field to field overlap.
- This is the first ever UKST survey whose prime method of dissemination is intended to be in the form of a digital atlas from SuperCOSMOS pixel data.

**Important Timescales**

There are 4 distinct but overlapping H-alpha survey phases:

- 1) The H-alpha survey observational phase (July 1997-late 2000)
- 2) The SuperCOSMOS scanning phase (1999-2001 anticipated)
- 3) The digital data calibration process (2000-2001)
- 4) Release of on-line digital survey products to the community (2000-2001)

Current estimates put survey completion by late 2000 if current progress is maintained.

**Current H-Alpha Survey Status**

- A total of 320 survey field exposures have been taken as of 23/7/99 comprising H-alpha and SR pairs (usually taken consecutively).
- 126 (54%) of the initial 233 fields of the main survey area are now covered to 'a' grade as of 23/7/99 with H-alpha/SR pairs.
- 155 fields (67% of survey) are covered to a+b grade.
- 73 fields remain with no H-alpha/SR exposure pairs.