

# First Images from DFOSC

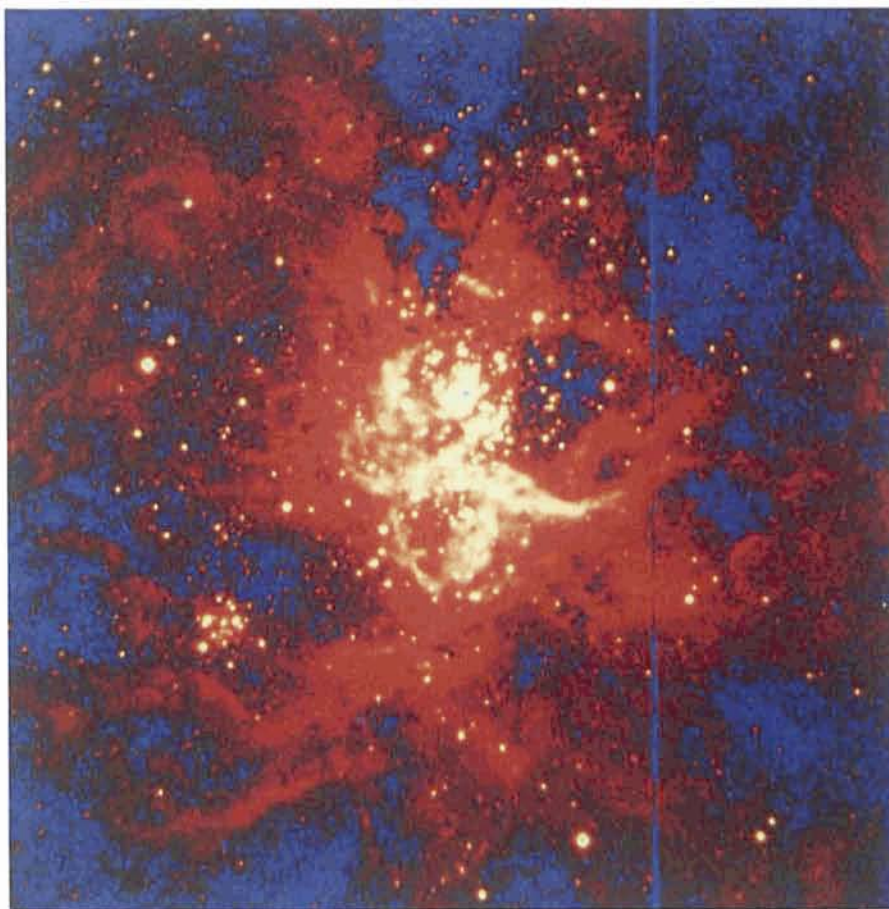
A new instrument for the Danish 1.54-metre telescope at La Silla has just been successfully tested. DFOSC (= Danish Faint Object Camera and Spectrograph) is similar in concept and performance to the ESO instruments EFOSC and EFOSC2, and it offers the same possibilities for direct imaging and low dispersion spectroscopy (including an echelle mode).

The image shown here, a 30-second, exposure of the 30 Doradus area in the Gunn r filtre, was obtained on Dec. 6, 1992 by Per Kjaergaard Rasmussen (PI) and Michael Andersen from the Copenhagen University Observatory. South is up and east is to the right. A logarithmic intensity scale has been used.

The detector is a 1000 x 1000 Thomson CCD which gives a  $8.5 \times 8.5$  arcmin<sup>2</sup> field. The instrument will eventually be equipped with a 2000 x 2000 Ford CCD which will give a field of  $13.7 \times 13.7$  arcmin<sup>2</sup>.

DFOSC may possibly be offered to the ESO community later this year. A short description of the instrument will be published in a forthcoming number of *The Messenger*.

*P. KJAERGAARD, Astronomical Observatory, Copenhagen University, Denmark*



## A New Fine-Grain Photographic Emulsion

*T.A. BIRULYA<sup>1</sup>, D.K. MIKHAILOV<sup>2</sup>, P.V. SHEGLOV<sup>1</sup>*

*<sup>1</sup>Sternberg Astronomical Institute, Moscow University, Moscow, Russia; <sup>2</sup>"Slavitch" A.S., Moscow, Russia*

Photographic observations continue to play an important role in astronomy in our part of the world, although we of course hope that in the future more and more CCD detectors may become available at observatories in the republics on the territory of the former Soviet Union. For certain purposes like accurate astrometry, however, the photographic emulsion is still superior to the digital detectors, thanks to its great stability and large area.

It would clearly be very useful to further improve the photographic emulsions which are available for astronomers. For this reason, astronomical photographic plates with quasi-T AgBr crystals have been experimentally produced during the past four years and progressively improved at the "Slavitch"

A.S. factory near Moscow. This emulsion is fine grain and must be hypersensitized by hydrogen soaking before the observations. It is coated on accurately polished glass of 2.6 mm thickness for astrometric purposes, and is also available on 1.3 and 1.7 mm thick glass at sizes up to  $30 \times 30$  and  $30 \times 36$  cm. The hypersensitizing of these plates was made by T.A. BIRULYA at the Sternberg Institute.

Several research programmes are now underway at the Sternberg Astronomical Institute with these plates. For instance, Dr. Yuriy Shokin has been using them during the past four years with the 23-cm astrometric refractor ( $f=2300$  mm) at the field station of the Sternberg Institute at Mount Majdanak (Uzbekistan) to greatly improve the posi-

tional accuracy of the reference stars and hence the Martian moons, Phobos and Deimos. He has also used them for the determination of the positions of optical counterparts of radio sources.

The achievable astrometric accuracy has been compared with that obtainable on ORWO ZU-21 plates which were used earlier for these programmes. A certain improvement is noted, especially when the very stable, 2.6 mm thick plates are used; these are much flatter than the ZU-21 coated on 1.6-mm glass, then bending resulting from the deflection of the emulsion.

Dr. Goransky has also used the new plates to obtain photographs of the Andromeda Nebula by means of a 50-cm Maksutov camera ( $f=2000$  mm), located at the Sternberg station on Crimea. With