by NGC 6684 (Bettoni and Galletta 1988). In this galaxy, the ring is elongated parallel to the bar, in a direction close to that of the line-of-sight. This gives the system the unusual aspect of a galaxy with a ring rounder than the disk. But the bulge also is triaxial. Its isophotes are not aligned at the same P.A. of the disk and the observed stellar motions appear to have a "kinematical line of the nodes" not coincident with the disk major axis, both typical signs of triaxiality. In addition, the bar appears displaced by $\sim 2''$ from the nucleus of the galaxy along its major axis. Off-centring of the bar (but along the bar's minor axis) is actually observed in some barred galaxies, but generally appears in late spirals, as NGC 4027 (Christiansen and Jefferys 1976, Pence et al. 1988). But with respect to the remaining galaxies of the sample, the offset of the NGC 6684 bar is quite a peculiar feature.

Short and smooth spiral arms, sometimes forming an incomplete ring, appear in some of the studied systems, such as NGC 2983, NGC 4546 and NGC 6684. This feature is brought into evidence by means of a decomposition of the images in the main galaxy components, performed by means of IHAP (see Bettoni et al. 1988). This procedure also indicates that in our sample the bars contain less than 20% of the total light.

The gas in the SB0s observed is concentrated in disks or in complex structures with spiral arms. The Hα imaging of some of the galaxies considered, which possess ionized gas (6 out of 11), indicates a spiral or a not relaxed structure. NGC 2217, for instance, has faint spiral arms in a structure that should be perpendicular to the bar's major axis. This structure recalls the gas in the warped plane which crosses the minor-axis dust-lane galaxies (Bertola and Galletta 1978) and seems to confirm the assumption made previously concerning matter in anomalous orbits. The more extended and complex structures observed in NGC 4546 and NGC 4684 (Fig. 4) represent two more cases of gas whose irregularity strongly suggests a recent acquisition from the outside. Again, as indicated by Wardle and Knapp (1986) for the neutral gas, there are indications of an external origin of most of the gas in S0 galaxies.

This work is dedicated to our daughter Anna, who decided to be born during the drafting of this paper.

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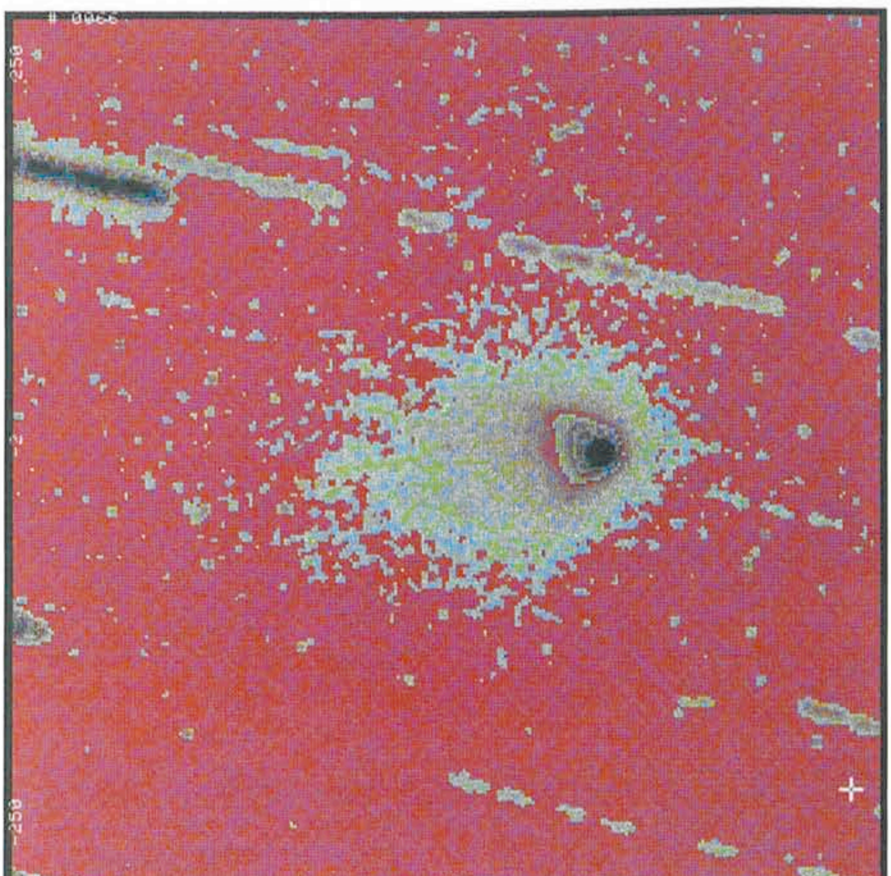
Comet Tempel 2 Turns On

Earlier this year, observers all over the world began to observe Comet Tempel 2, a prime object for the NASA Comet Rendezvous Asteroid Flyby mission (CRAF) in 1993. This short period comet (P = 5.29 years) was first observed in 1873 and has since been seen at no less than 18 apparitions.

This time it was recovered already in December 1986, by Tom Gehrels and his collaborators with the Spacewatch camera. At that time the heliocentric



distance was over 4 Astronomical Units.

From earlier apparitions, it is known that the onset of activity is rather abrupt, normally about 60–80 days before perihelion, but at least once (in 1951) up to 100 days before. Since the perihelion would be passed on September 16.7, 1988 this time, it was expected that this turn-on would happen in June, or perhaps already in late May. This means that the cometary nucleus has been heated sufficiently to enable gas and dust to escape, so that a coma and a tail are created.

Observations from Kitt Peak on April 9–15, 1988 by D. Jewitt and J. Luu, still showed an stellar-like image of the comet nucleus. However, as can be seen on the picture, CCD images obtained on May 16 and 17 with the Danish 1.5-m telescope clearly show that the activity has started: the comet is surrounded by a diffuse coma, which extends over 1 arcmin or more. The active phase must therefore have started rather early this time, at least 104 days before perihelion.

The picture, which is a composite of eleven 10-minute exposures through a Johnson V filter on May 17, has a field of $\sim 2.0 \times 2.0$ arcmin^2. North is up and East is to the right. On this date, Tempel 2 was 135 million km from the Earth and the heliocentric distance was 278 million km. The magnitude of the central, bright part was about 17.

In the meantime, as reported by several journals (e.g. *Sky and Telescope*, September 1988, page 236), unfortunately no funding was received for CRAF in fiscal year 1989. This means that the launch will have to be delayed to the fall of 1994 and that therefore another comet will have to be targeted, probably Comet Wild 2. *R. M. WEST*

First Infrared Images with IRAC

A. MOORWOOD, G. FINGER and A. MONETI, ESO

Following its installation and first test in July, a second test of the new infrared array camera has just been completed at the 2.2-m telescope. Having returned after the official deadline we have not had time to prepare a very detailed article for this *Messenger*. We nevertheless wanted to take this opportunity to show a selection of images illustrating the kinds of results being achieved in the various camera modes and also to draw the attention of potential users to a problem with the detector which has developed since the Announcement for period 43 was issued.

As described in the June issue of the *Messenger* (**52,** 50) IRAC provides for infrared imaging in the standard J, H, K, and L filters and offers two novel features compared with existing common user cameras elsewhere – on line selection of four magnifications between 0.3 and 1.6 arcsec. per pixel and the provision of circular variable filters

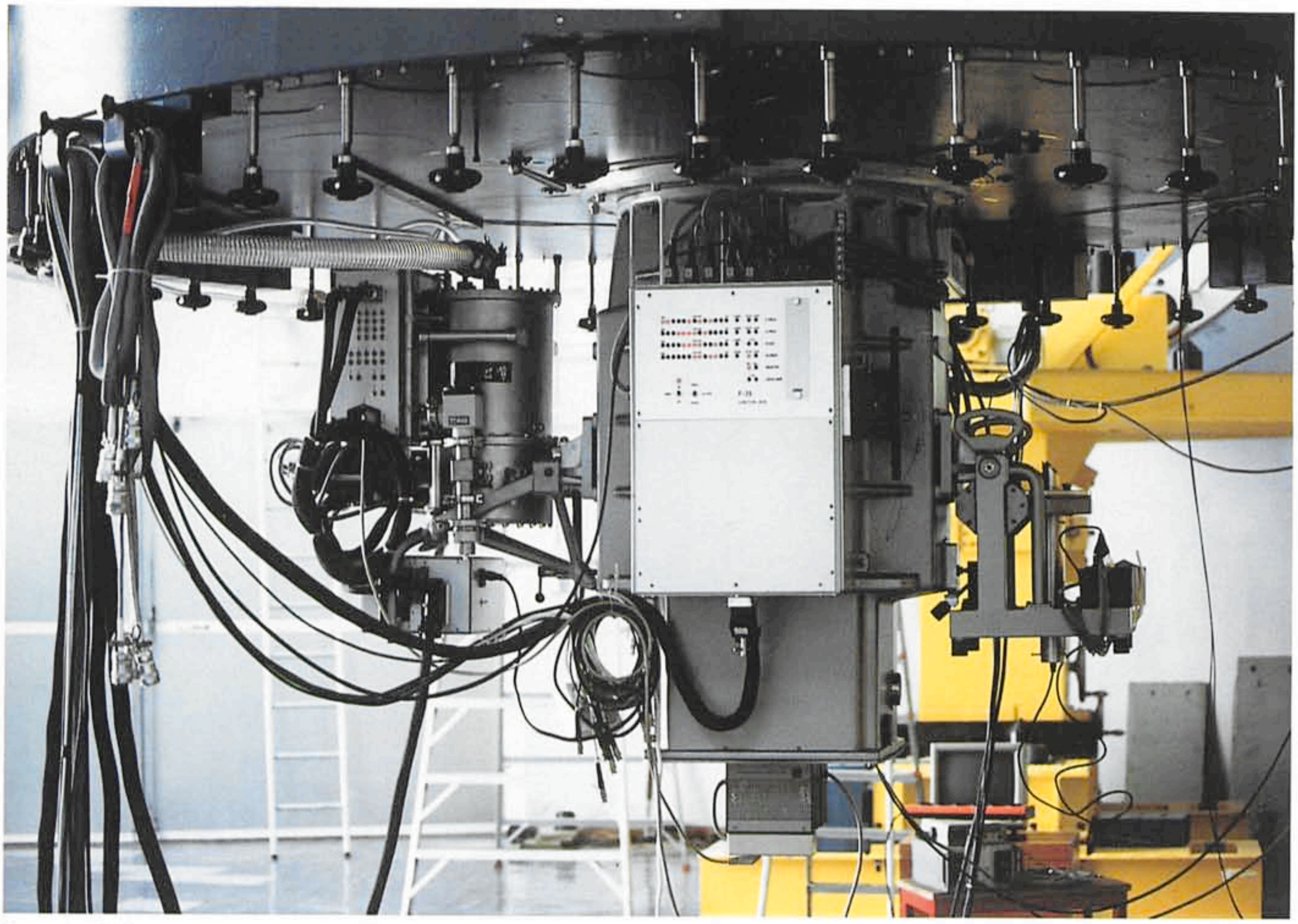


Figure 1: *IRAC mounted on the F/35 infrared adapter at the 2.2-m telescope.*