

Fig. 4: The core of NGC 6397 and its central condensation. North: upper right. Field:  $85'' \times 60''$ . 8 sec unfiltered exposure through the image tube at the 1.5 m Danish telescope.

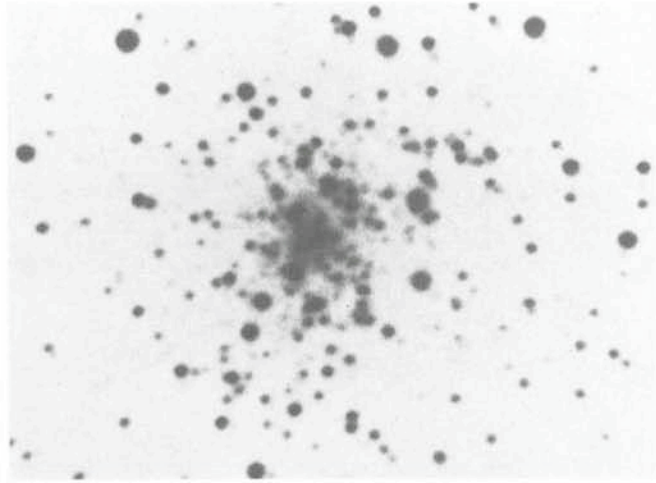


Fig. 5: The central part of the very condensed core NGC 7099 (M 30). North: upper left. Field  $100'' \times 70''$ . 5 sec unfiltered exposure through the image tube at the 1.5 m Danish telescope.

it is dynamically very advanced and it is a very good case for a possible central singularity. The  $1''$  resolution photographs of NGC 6397 secured at La Silla are twice as resolvable in parsec as the best ones obtained for M 3 and M 15. In the very centre of the cluster (Fig. 4) we see a condensation of rather faint stars. Radial brightness profiles obtained from the B and V images show that this feature induces a central luminous excess above the isothermal profile. The size of the central condensation is about  $10''$  or 0.1 pc, which is very near to that of M 15. NGC 6397 seems to be a case of a globular cluster showing a central condensation of rather faint stars. The works of Illingworth and King (1977, *Astrophys. J.*, **218**, L 109) and Heggie (1979, IAU Symposium No. 85), for example, have shown that such central condensations can be explained as the result of collapsed cores. The observational study of these condensations needs high spatial resolution to rule out possible effects of random clumping of bright stars.

M 30 (NGC 7099) was also observed at La Silla. Its declination (about  $-23^\circ$ ) permits observations from Pic du Midi. It is

an example of object that can be observed from the two observatories. Fig. 5 shows one of the short exposures obtained at La Silla which will enable us to work on the B and V photographs obtained from La Silla as well as from Pic du Midi. M 30 is very concentrated and has a central relaxation time of only  $1.5 \cdot 10^7$  years. Its core is rather poor in bright stars. We will check if the deficiency in red giants observed in the outer parts is also present in the central part.

### Conclusion

A first exploratory observing run at La Silla for studying the core of globular clusters has been fruitful. We have obtained new results and demonstrated that the site is well suited for such research. We plan to have new observations to try to reach still better spatial resolution and to investigate other objects. The investigation will also be extended to Magellanic Cloud globular clusters. If we astutely choose our targets, we might be able to tackle problems which are often believed to be reserved to the Space Telescope.

## Visiting Astronomers

(October 1, 1981 – April 1, 1982)

Observing time has now been allocated for period 28 (October 1, 1981 – April 1, 1982). As usual, the demand for telescope time was much greater than the time actually available.

The following list gives the names of the visiting astronomers, by telescope and in chronological order. The complete list, with dates, equipment and programme titles, is available from ESO-Garching.

### 3.6 m Telescope

Oct. 1981: Azzopardi/Breysacher/Lequeux/Maeder/Westerlund, Véron, M. P. and P., Wlérick/Cayatte/Bouchet, Westerlund, de Graauw/Israel/van de Stadt/Habing, van Dessel/van Paradijs/Burger/de Loore, Seitter/Teuber, Melnick/Terlevich/McMahon, de Ruiter/Zuiderwijk, Pizzichini/Danziger/Grosbøl/Pedersen, Tarengi, Rosa/D'Odorico, D'Odorico/Baade.

Nov. 1981: D'Odorico/Baade, Hunger/Kudritzki/Simon, D'Odorico/Moorwood, Moorwood/Salinari, Moorwood/Shaver/Salinari, Dennefeld, Thé/Alcaino, Grewing/Schulz-Lüpertz, Wehinger/Gehren/Wyckoff, Macchetto/Perryman/di S. Alighieri, Marano/Braccesi/Zitelli/Zamorani, Valentijn, Wlérick/Cayatte/Bouchet.

Dec. 1981: Wlérick/Cayatte/Bouchet, Lindblad/Athanassoula/Grosbøl/Jörsäter, Grosbøl, Wilson/Ziebell, Rouan, Braz/Lepine/Epchtein, Nguyen-Q-Rieu/Epchtein, Epchtein/Nguyen-Q-Rieu/Braz, Papoular/Epchtein/Le Bertre, Fricke/Kollatschny/Schleicher/Witzel, Schnur, de Ruiter/Lub, Giuricin/Hazard/Mardirossian/Mezzetti/Terlevich, Nelles/Richtler, Miley/Heckman.

Jan. 1982: Miley/Heckman, Pettersson, Thé/Koornneef, Olofsson/Nordh/Fridlund/Koornneef, Eichendorf/Krautter, Krautter/Eichendorf, Eichendorf/Reipurth, van Dessel/van Paradijs/Burger/de Loore, Eichendorf/Reipurth, Danziger/de Ruiter/Kunth/Lub/Griffith, Gahm/Krautter, Mouchet/Motch/Ilovaisky/Chevalier.

- Feb. 1982: Mouchet/Motch/Ilovaisky/Chevalier, Lamy/Koutchmy, Chevalier/Ilovaisky/Fauconnier/Dreux/Fort/Motch/Hurley, Fort/Vigroux/Kunth, Reimers/Koester, Koester/Weidemann.
- March 1982: Koester/Weidemann, Kollatschny/Fricke/Collin-Souffrin/Dumont, Engels, Combes/Encrenaz/Zeau/Berezné/Arfouillaud, Kudritzki/Simon/Méndez, Audouze/Dennefeld, Cetty-Véron, Tarengi, Ardeberg/Lindgren/Nissen.

### 1.5 m Spectrographic Telescope

- Oct. 1981: Ferlet/Maurice/Prévot, Duerbeck, Maurice/Waelkens, Spite, F. and M./Barbuy, D'Odorico/Baade, Vidal, Boisson.
- Nov. 1981: Boisson, Muratorio, Maurice/Waelkens, Grewing/Schulz-Lüpertz, Louise, Grosbøl, Maceroni/Milano/Russo/Nesci.
- Dec. 1981: Maceroni/Milano/Russo/Nesci, Finkenzeller, Baade, Drechsel/Wargau/Rahe, Wamsteker/Danks, Pettersson, Krautter/Reipurth.
- Jan. 1982: Krautter/Reipurth, de Loore/van den Heuvel/van Paradijs, Stahl/Wolf, Eichendorf/Nieto, Eichendorf/Reipurth, Appenzeller/Marenbach, Rucinski, Andriillat.
- Feb. 1982: Andriillat, Vreux, Holweger, West/Barbon/Capaccioli, Fricke/Kollatschny/Schallwich/Schleicher/Yorke, Ilovaisky/Chevalier.
- March 1982: Ilovaisky/Chevalier, Dachs, Gehren, Ardeberg/Maurice, Véron, P., Bertola/Galletta, Darius/Barbier.

### 1.4 m CAT Telescope

- Dec. 1981: Andersen/Gustafsson/Lambert.
- Jan. 1982: Andersen/Gustafsson/Lambert, Habing/Burton/de Graauw/Israel/van de Stadt, Gerbaldi, Paraggiana/Floquet/van Santvoort.
- Feb. 1982: Gerbaldi/Paraggiana/Floquet/van Santvoort, Holweger, Ferlet/Bruston/Audouze/Laurent/Vidal-Madjar, Ferlet/Dennefeld, Ferlet/York, Dravins/Lind.
- March 1982: Dravins/Lind, Nissen, Frisk/Olofsson.

### 1 m Photometric Telescope

- Oct. 1981: Westerlund, Westerlund/Lundgren, Ferlet/Maurice/Prévot, Breysacher/Perrier, Melnick/Terlovich, Beck/Wielebinski/Schnur.
- Nov. 1981: Beck/Wielebinski/Schnur, Moorwood/Shaver/Salinari, Vanbeveren, Grewing/Schulz-Lüpertz, Thé/Alcaïno, Bues/Rupprecht.
- Dec. 1981: Bues/Rupprecht, Marano/Braccisi/Zitelli/Zamorani, Epchtein/Nguyen-Q-Rieu/Braz, Nguyen-Q-Rieu/Epchtein, Papoular/Epchtein/Le Bertre, Fridlund/Nordh/Olofsson, Alcaïno, Richtler/Nelles, Pettersson, Wlérick/Cayatte/Bouchet.
- Jan. 1982: Wlérick/Cayatte/Bouchet, Terzan, Reipurth, Geyer/Richtler, van Woerden/Danks.
- Feb. 1982: van Woerden/Danks, Kohoutek, Schneider/Maitzen, Bastien/Bertout, Mattila/Schallwich/Fricke/Schnur.
- March 1982: Mattila/Schallwich/Fricke/Schnur, Dachs, Engels, Gammelgaard/Kristensen, van Woerden/Danks, Cetty-Véron.

### 50 cm ESO Photometric Telescope

- Oct. 1981: Thé/Alcaïno, Gyldenkerne/Hawkins.
- Nov. 1981: Gyldenkerne/Hawkins, Schneider/Maitzen, Caplan/Deharveng/Sivan.
- Dec. 1981: Caplan/Deharveng/Sivan, Schoembs, Isaak, Wolf/Stahl/Sterken.
- Jan. 1982: Wolf/Stahl/Sterken, Rucinski, Kohoutek, Thé/Karman.
- Feb. 1982: Thé/Karman, Bastien/Bertout, Mattila/Schallwich/Fricke/Schnur.
- March 1982: Mattila/Schallwich/Fricke/Schnur, Mauder, Debehogne, Lagerkvist/Rickman, Schober.

### GPO 40 cm Astrograph

- Oct. 1981: Azzopardi.
- Nov. 1981: Schmidt-Kaler/Tüg, Bijaoui/Lacoarret/Le Van Suu.
- Dec. 1981: Bijaoui/Lacoarret/Le Van Suu.
- Jan. 1982: Burnage.
- March 1982: Debehogne/Vieira Gilson.

### 1.5 m Danish Telescope

- Oct. 1981: Ardeberg, Maurice.
- Nov. 1981: Crane/Motch/West/Kruszewski, Crane, Motch/Ilovaisky/Chevalier/Crane/Hurley, Kruszewski/West.
- Dec. 1981: Kruszewski/West, van Paradijs/van der Klis, Lyngå, Imbert/Prévot.
- Jan. 1982: Imbert/Prévot, Andersen/Nordström, Sol, Lortet/Testor/Heydari-Malayeri/Pedersen/Lub, Mouchet/Motch/Ilovaisky/Chevalier.
- Feb. 1982: Mouchet/Motch/Ilovaisky/Chevalier, Lortet/Testor/Heydari-Malayeri/Pedersen/Lub, Ardeberg.
- March 1982: Tarengi.

### 50 cm Danish Telescope

- Oct. 1981: Sterken/Jerzykiewicz, Rucinski.
- Nov. 1981: Rucinski, Schneider/Maitzen.
- Dec. 1981: Baade, Lyngå.
- Jan. 1982: Lyngå, Renson/Manfroid.
- Feb. 1982: Clausen.
- March 1982: Clausen.

### 90 cm Dutch Telescope

- Oct. 1981: Maurice/Lub.
- Nov. 1981: Pel, de Ruiter/Lub.
- Dec. 1981: de Ruiter/Lub.
- Jan. 1982: Krautter/Reipurth, Seggewiss, Darius/Barbier.
- Feb. 1982: Darius/Barbier.
- March 1982: Cuyppers, Gathier/Pottasch.