

INIS-mf--5817

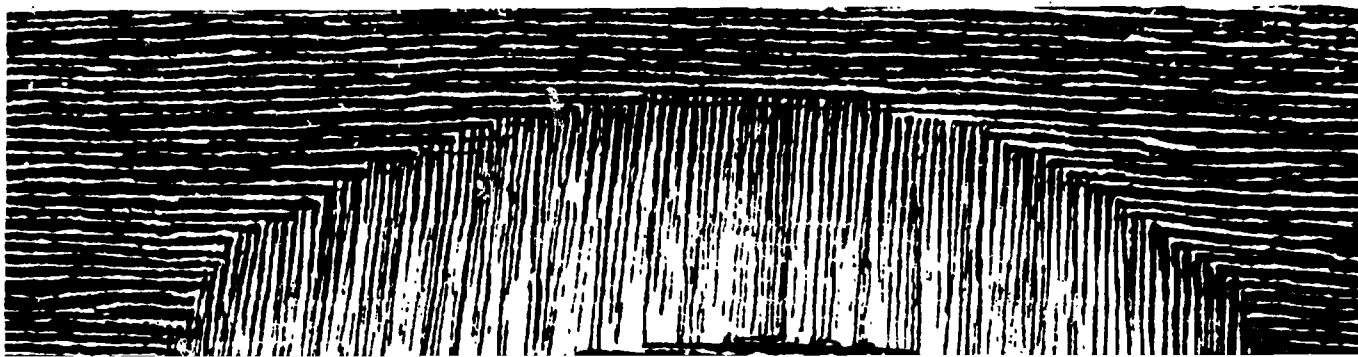
NO7900062

THE AURORAL OBSERVATORY

TROMSØ

NORWAY

**Review of
all-sky camera data
for the period from Sep. 1 to Dec 31, 1976**



2

**Review of
all-sky camera data
for the period from Sep. 1 to Dec 31, 1976**

**The Auroral Observatory
University of Tromsø
Tromsø, Norway**

February 1978

ALL-SKY CAMERA RECORDS

For the period September to December 1976 three all-sky cameras were operated on a routine basis by The Auroral Observatory, Tromsø. One was located in Tromsø (geogr. coord. 69.70, 19.00), the second in Skibotn (geog. coord. 69,.37, 20.30) and the third in Ny-Aalesund (geog. coord. 78.92, 12.00) The present report gives a review of the records obtained during the period from September to December, 1976.

At Tromsø and Ny-Aalesund 16-mm Swedish all-sky cameras, U-16, are used, and in Skibotn the improved 35-mm Swedish all-sky camera, U-35. The main advantage of U-35 is that it has a higher resolution and therefore gives more details about the aurora and the weather compared with U-16. The U-35 camera generally use black and white film, but colour film has been tried during special events. High prices prevent continuous operation of the U-35 camera with colour film. With colour film the aurora and clouds can be distinguished to a high degree, and the U-16 cameras are continuously operated with colour film. The intervals between exposures have been 1 minute in Tromsø and normally 1 minute in Skibotn. During special events the Skibotn camera has run with 0.5 minute intervals.

A review of the half-annual data are presented graphically. The graphical presentation, the auroral plot, is a simplification of the ascaplot, published in the IGY Annals.

In order to avoid confusion with timing all time are given in UT. From the data reduction procedure only aurora and cloudiness (including rain and snow) are specified. For more details the original film must be consulted. The aurora and cloudiness are averaged for intervals of an hour, and the following numbers are used to indicate aurora, no aurora, combinations of aurora and clouds, and cloudiness:

- | | |
|---------------------------------|------------------------|
| 1 - No aurora and clear sky | 5 - Cloudy |
| 2 - Aurora and clear sky | 6 - Aurora and clousy |
| 3 - No aurora and partly cloudy | C - Instrument trouble |
| 4 - Aurora and partly cloudy | |

The numbers 2, 4 and 6 indicate aurora, and 1, 3 and 5 no aurora.

It must be realized that the clouds can be so dense that aurora is not detectable from ground, and due to this absorption effect it is hard to distinguish between case 5 and 6 to state any auroral luminosity through the clouds. By the notation cloudy we mean a completely cloudy sky.

The auroral plot is a graphical representation of the data and is based on a four line system. The start and stop are marked by vertical, short lines. Aurora under different weather conditions are indicated by blackened squares in one of the first three lines, and the system works as follows:

First line = Aurora and clear sky
Second line = Aurora and partly cloudy
Third line = Aurora and cloudy
Fourth line = The numbers, 1, 3 and 5, indicate
no aurora under different weather
conditions and letter C for instrumental trouble

In case of no operation no indication is placed on any of the four lines.

The number of blackened squares on the auroral plots show the periods where detectable aurora occurs, and provides a quick-look of the data. This report is intended to be a guide to the available all-sky camera films and a service for the scientific community. Copies of intervals of the data will be provided to selfcost prices by The Auroral Observatory.

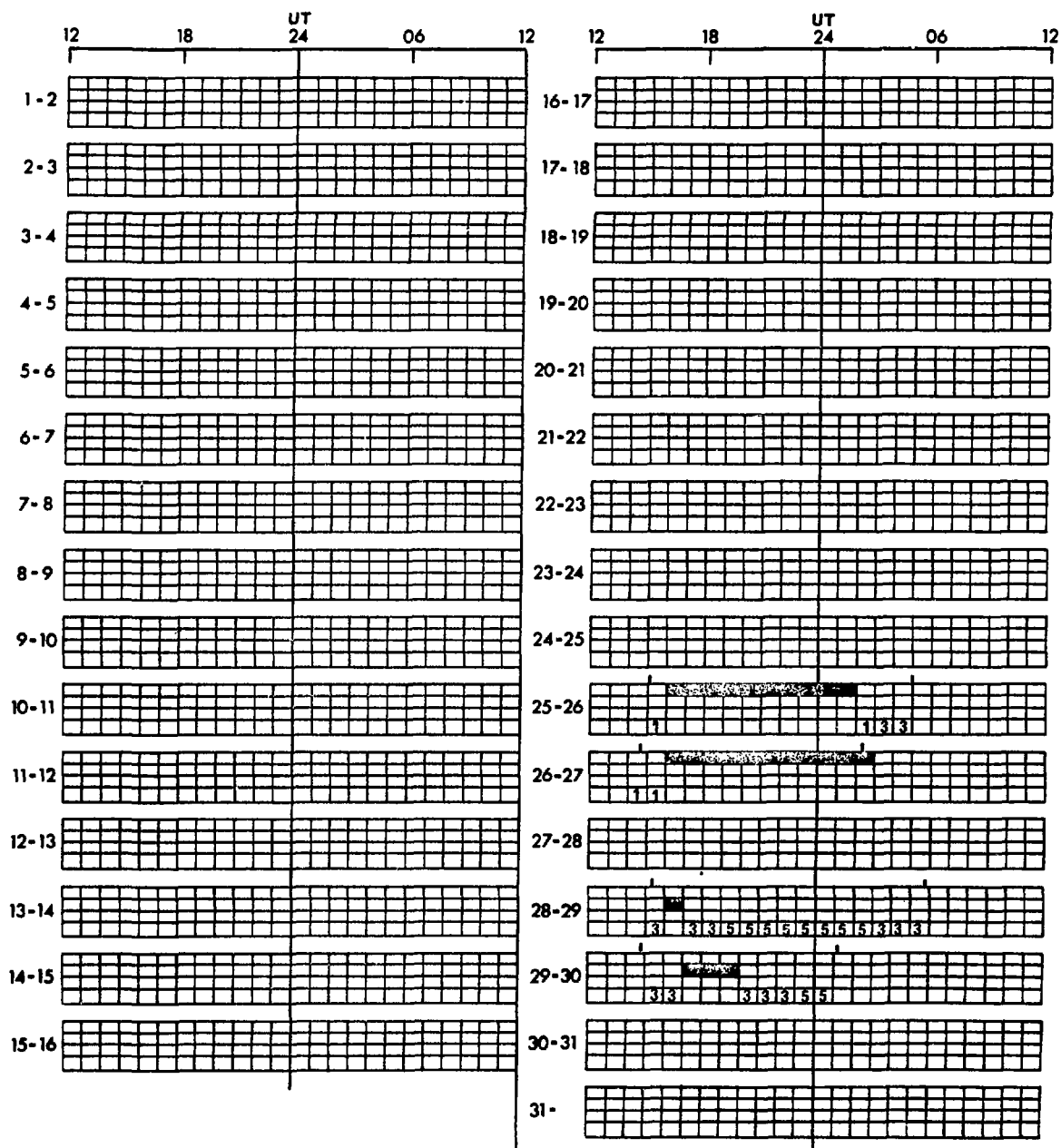
The data acquisition is organized by S. Berger, and the data reduction conducted by E. Guttormsen.

Tromsø, February 1978.

Kjell Henriksen
(Supervisor)

AURORAL PLOT, SKIBOTN

NOVEMBER 1976



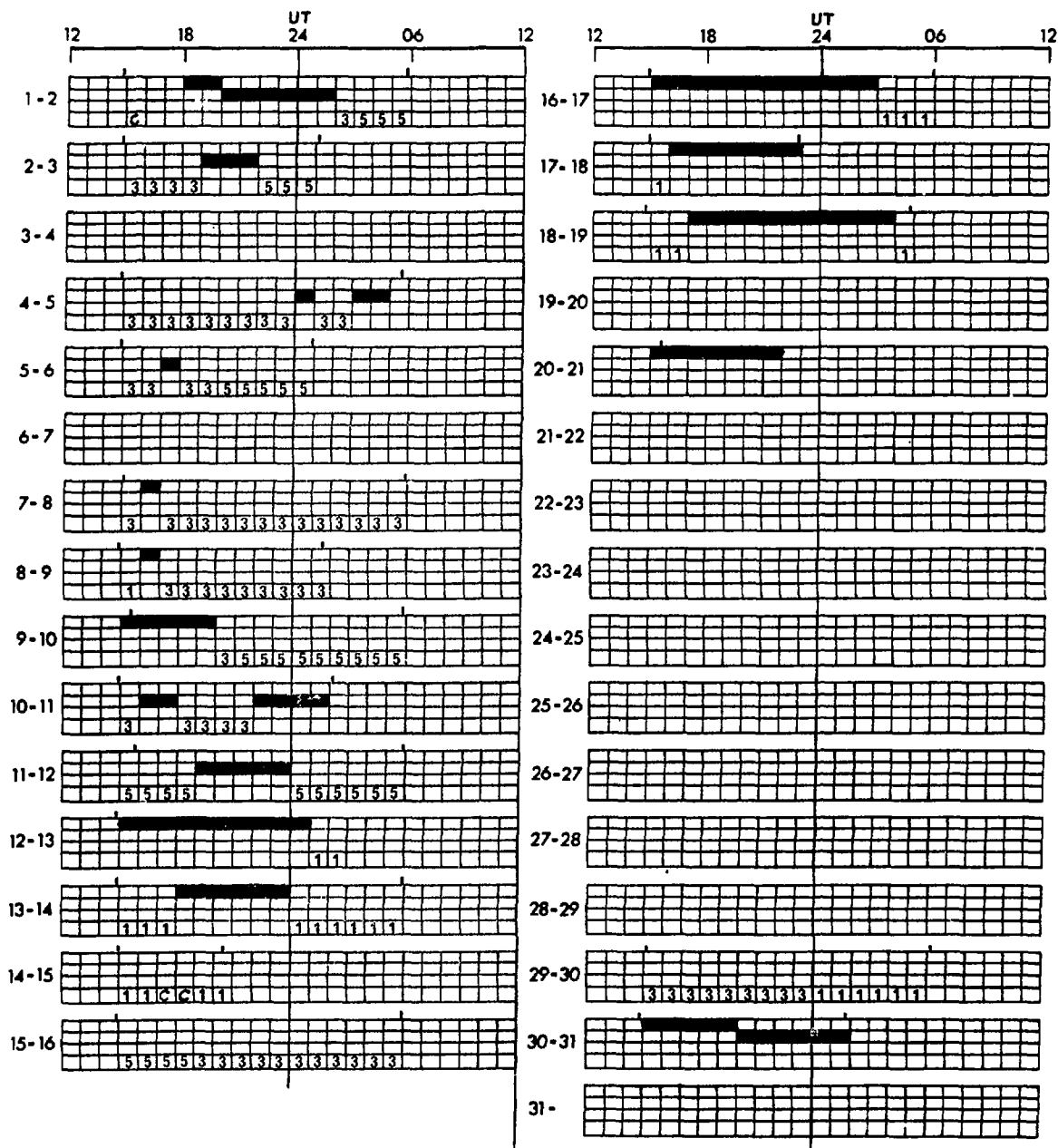
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



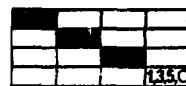
AURORAL PLOT, SKIBOTN

DECEMBER 1976



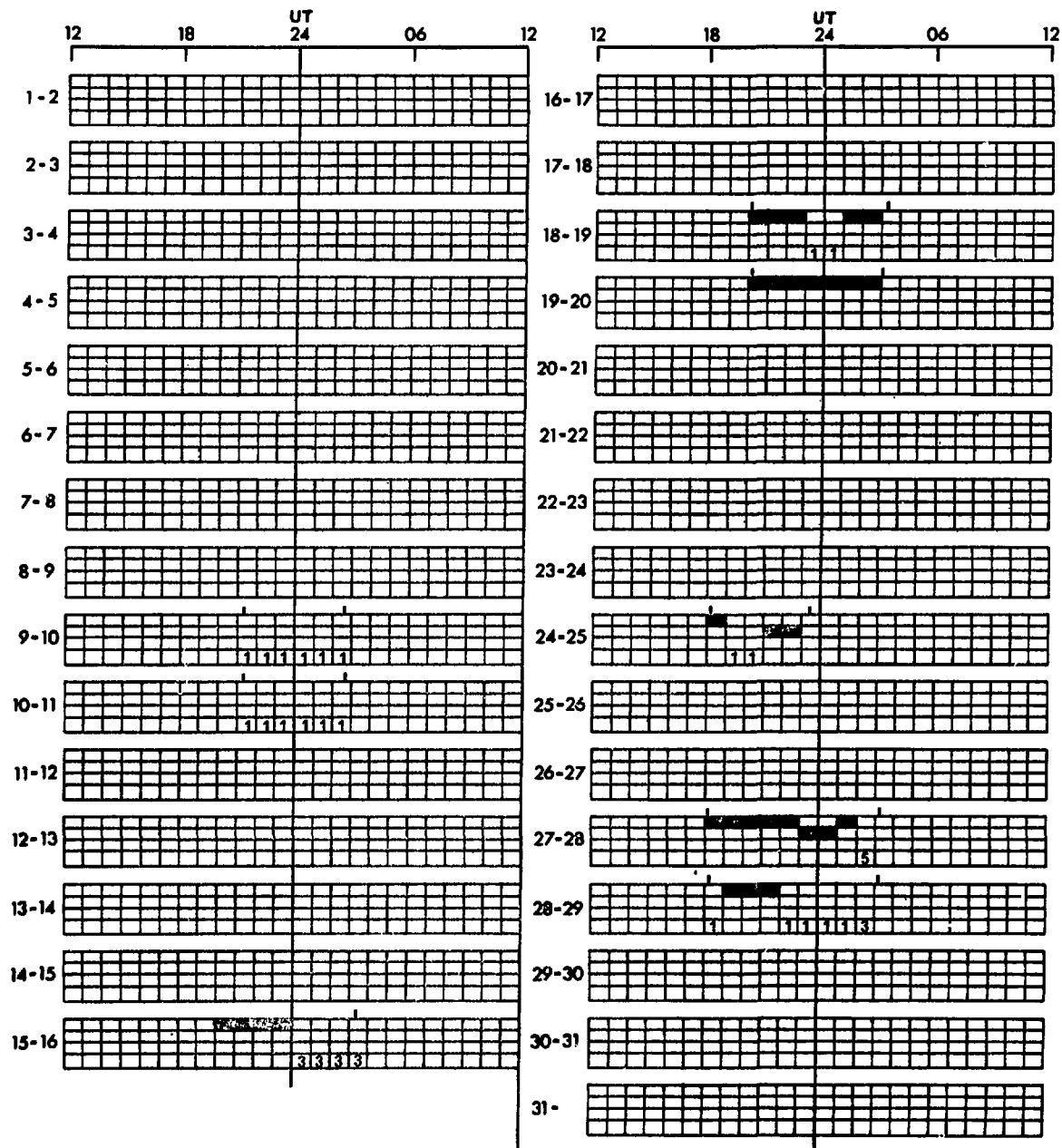
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



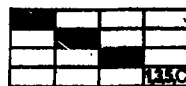
AURORAL PLOT, TROMSØ

SEPTEMBER 1976



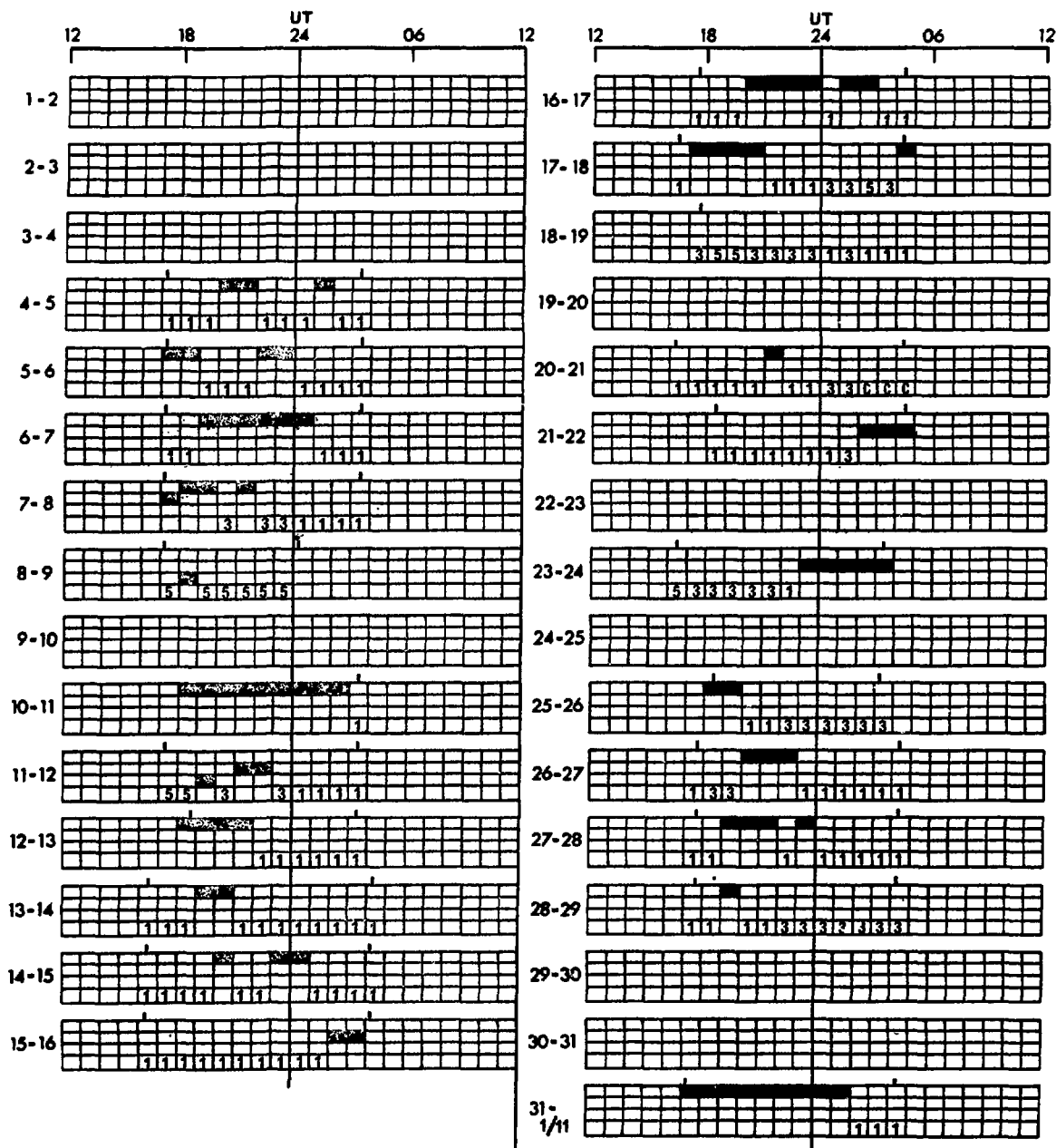
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



AURORAL PLOT, TROMSØ

OCTOBER 1976



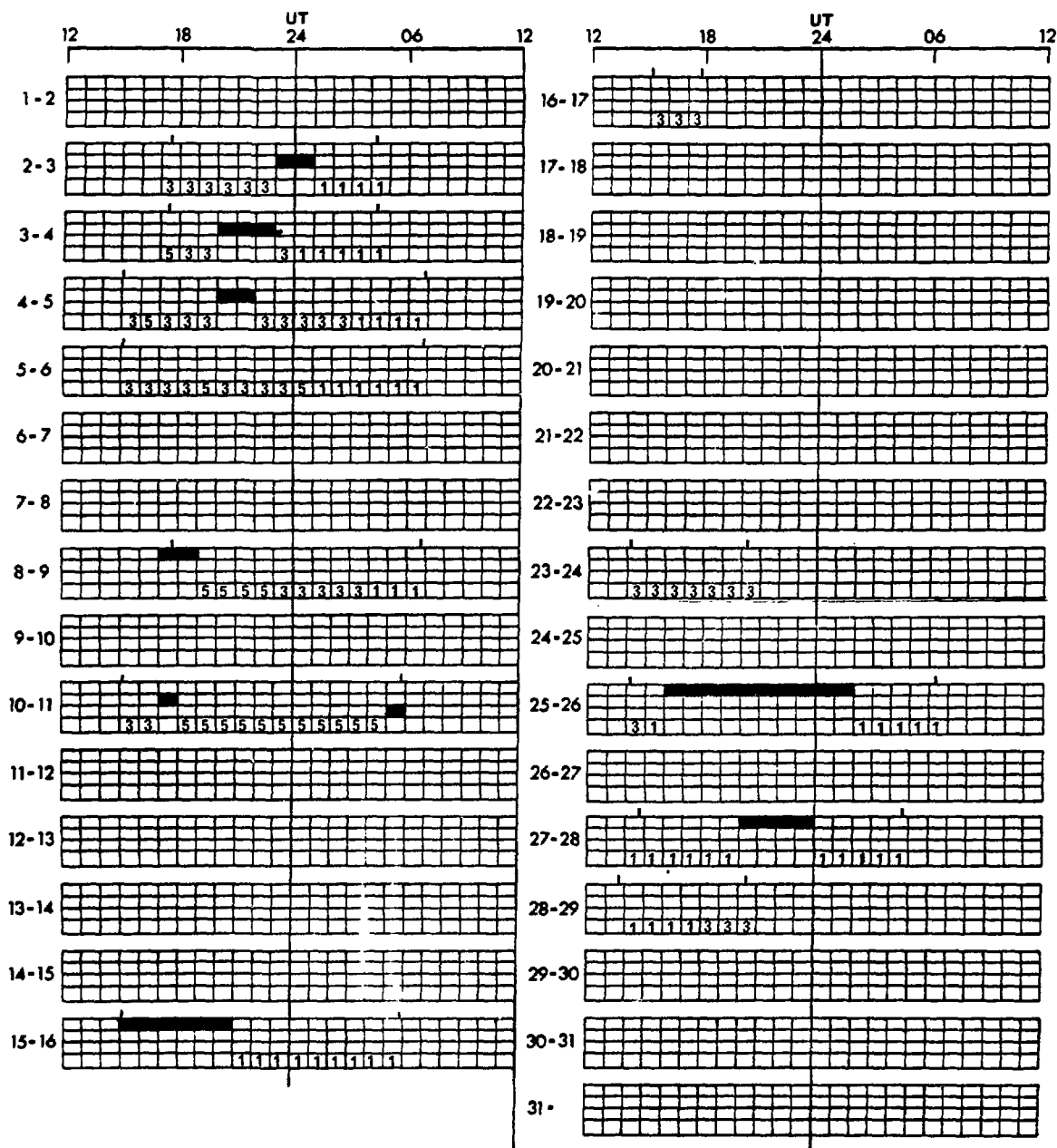
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



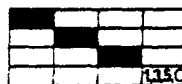
AURORAL PLOT, TROMSØ

NOVEMBER 1976



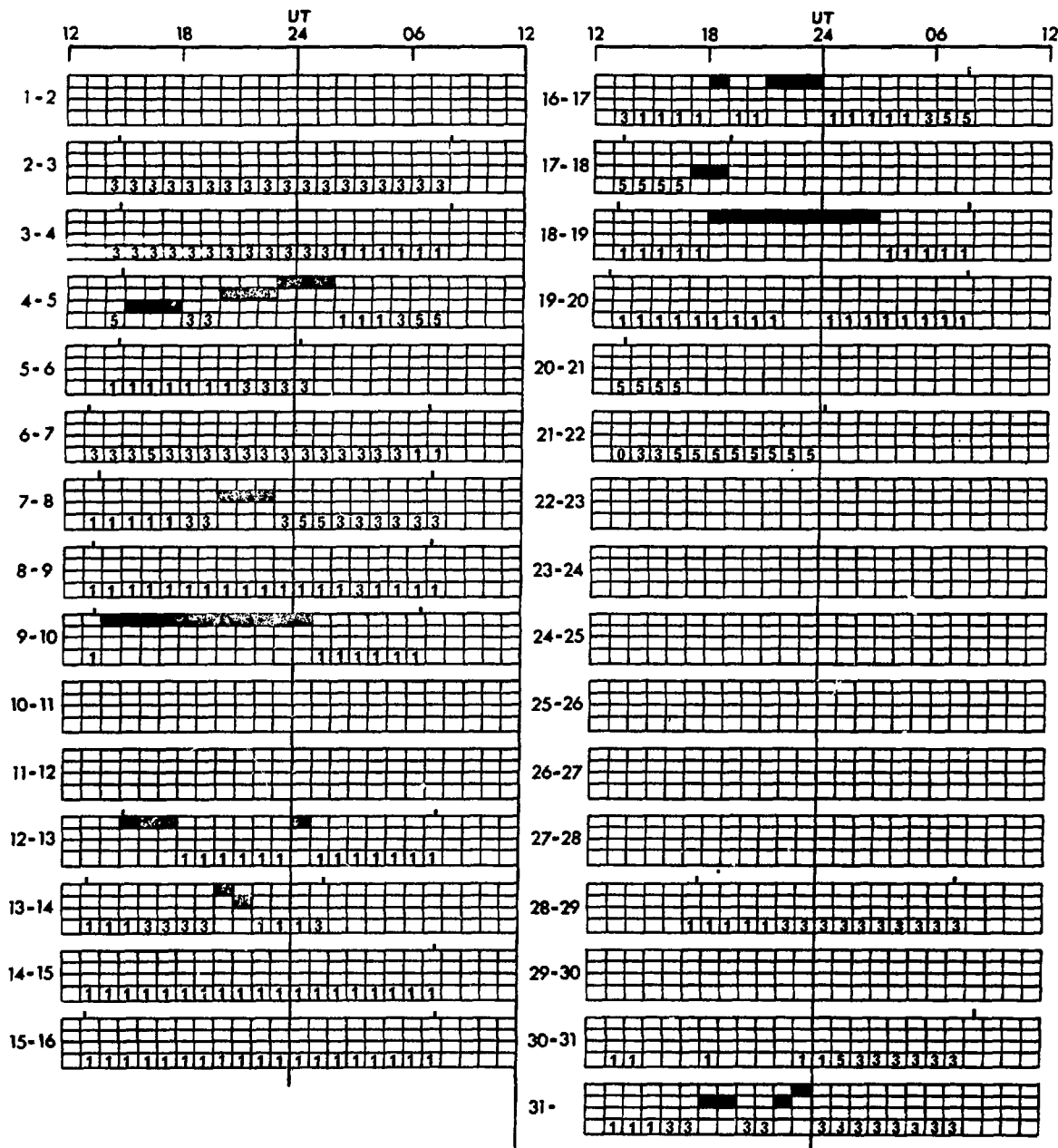
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



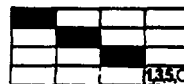
AURORAL PLOT, TROMSØ

DECEMBER 1976



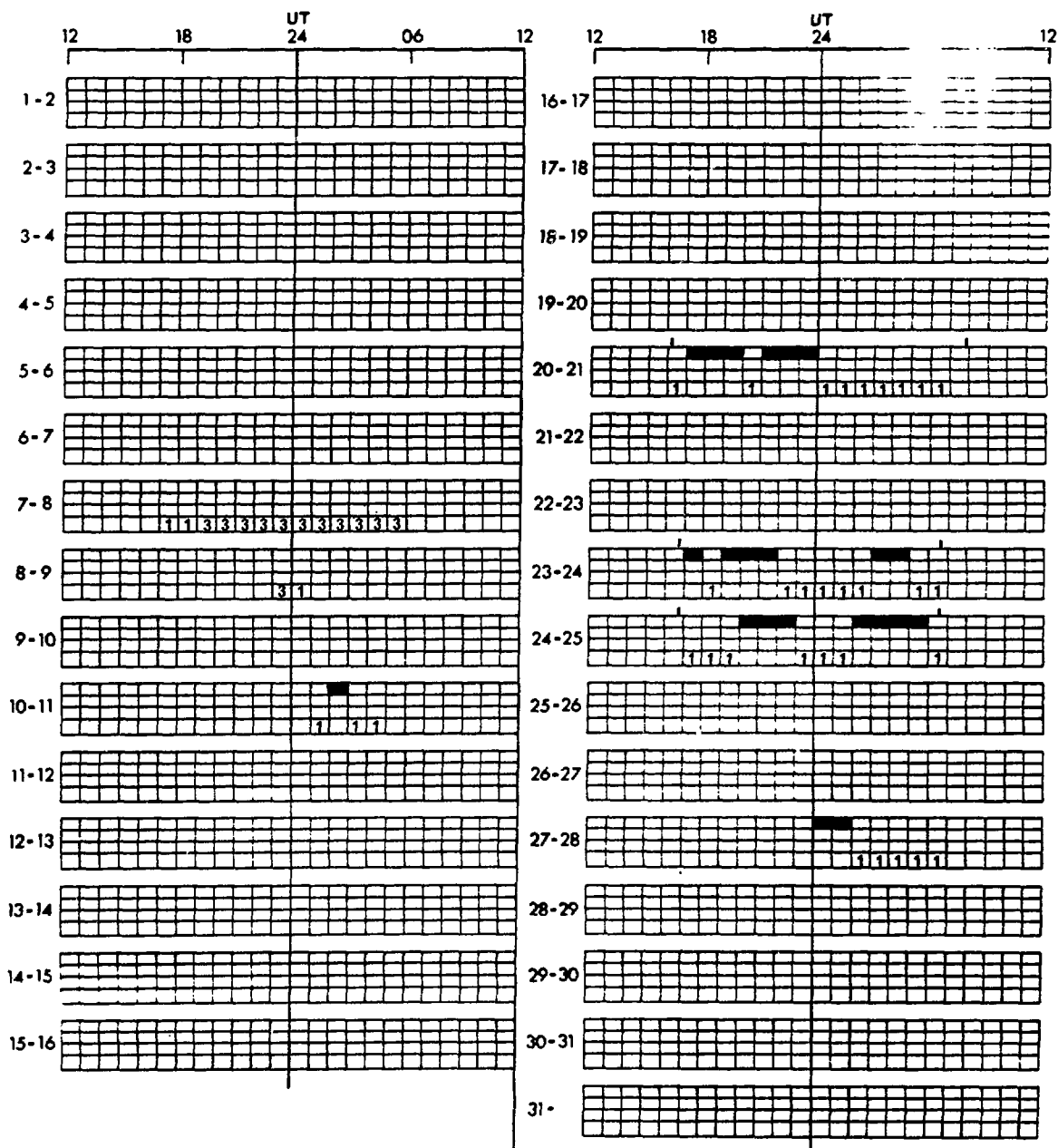
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



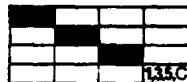
AURORAL PLOT, NY-ALESUND

OCTOBER 1976



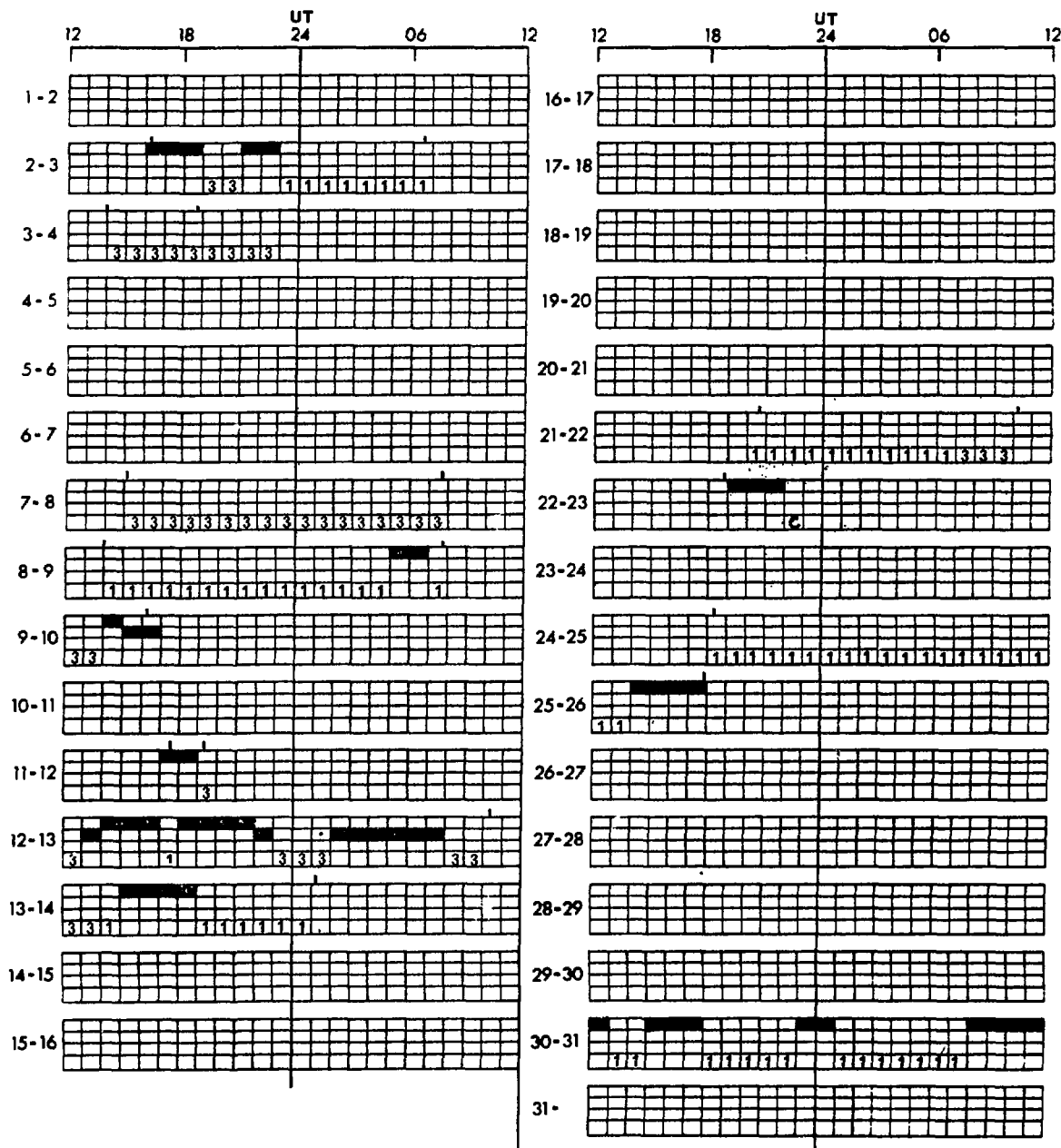
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



AURORAL PLOT, NY-ÅLESUND

NOVEMBER 1976



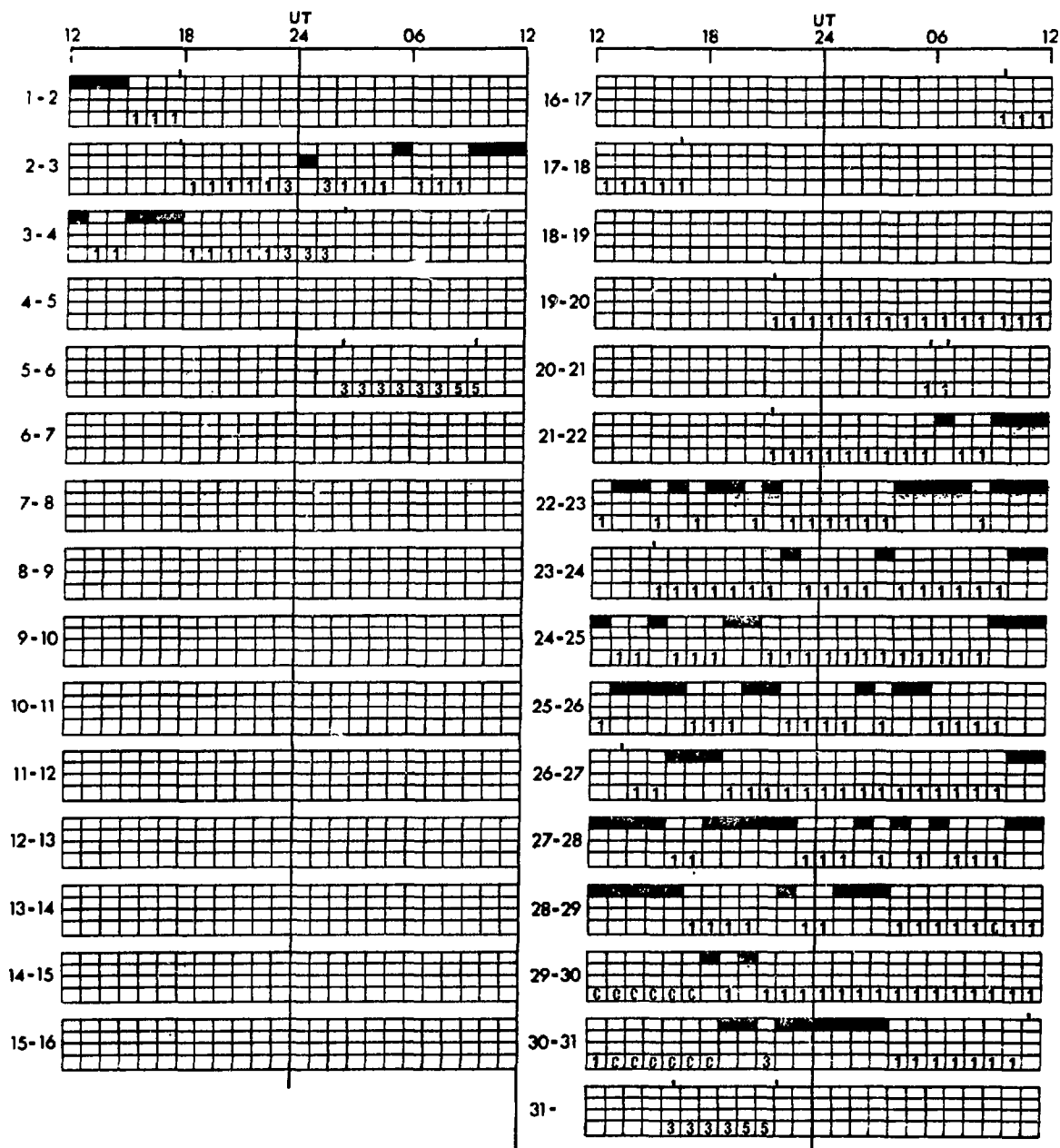
IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)



AURORAL PLOT, NY-ÅLESUND

DECEMBER 1976



IDENTIFICATION INSTRUCTIONS FOR THE AURORAL PLOT:

AURORA AND CLEAR SKY
 AURORA AND PARTLY CLOUDY
 AURORA AND CLOUDY
 USE OF THE FOURTH LINE INDICATES
 NO AURORA (1,3,5) AND INSTRUMENTAL
 TROUBLE (C)

