The central part of the southern galaxy NGC 5253, as seen on a conventional photographical plate at the 3.6 m telescope prime focus (left) and by a CCD at the Cassegrain focus of the ESO 1 m photometric telescope (right). Each picture measures about 33 x 33 arcseconds. Data: left photo: IV-N (H_2O sensitized) + RG 715, effective wavelength 8000 Å, exposure 30 min, 26 March 1977; right photo: JPL-CCD + RG 1000, effective wavelength 10000 Å, exposure 15 min, 19 March 1978. The orientation is the same on both photos: north is up and east to the left.

Since the wavelength region defined by the plate-filter combination of the left-hand photograph is relatively free of emission lines, it gives a good impression of the distribution of the stellar radiation in the nucleus of this galaxy. Note that the northern spot is much fainter than in the adjacent picture and has a brightness comparable to that of the other bright spots.

The right-hand picture is a scan converter photograph of the original, digital image. In the scan conversion, the digital quality of the image is nearly completely smoothed out; also a large amount of intensity information is lost in this reproduction, due to the 16 grey levels available in the scan converter. The pixel size is 23 microns.

Comparing the two photographs, one sees a considerable difference in the brightness distribution. Since the photographs were taken with broad-band filters, it is not possible to say if the great brightness of the northern dominant spot at $\lambda = 10000$ Å is due to non-thermal radiation or e.g. very strong emission in the Paschen γ and δ lines of hydrogen. The latter possibility is the more likely since this region coincides spatially with a point-like source of Hα emission. The fainter spots are apparently rather dense stellar condensations in the centre of this galaxy. Reproductions: R. Donarski (ESO–La Silla).

Whatever Happened to NGC 5291?

H. Pedersen, P. Gammelgård, S. Laustsen

The striking, new photographs of NGC 5291 that were recently obtained with the ESO 3.6 m telescope show large amounts of material in the intergalactic space around that galaxy. How did it get there? No definitive answer can be given yet, say the authors, Drs. Holger Pedersen, Peter Gammelgård and Svend Laustsen from the Aarhus Observatory, Denmark, and ESO.

In December last year the Institute of Astronomy in Aarhus received the first batch of IIIa–J exposures taken in Australia as part of the joint ESO/SRC Sky Survey. One of the first plates we inspected was No. 445 which contains a beautiful cluster of galaxies, the IC 4329 group. Near the western edge of the cluster we recognized a pair of interacting galaxies of which NGC 5291 is the one. Such phenomena are quite common; whole catalogues devoted only to these objects have been compiled. In many cases the interacting galaxies are connected by diffuse, low luminosity bridges or they display long tails, as if tidal forces had torn the galaxies apart.

Something like that seems also to be the case with the present pair, but the appearance and large extension of the extragalactic material is quite unusual. Most of the light seems to come from small, but non-stellar knots. This is characteristic of H II regions, which are interstellar hydrogen clouds emitting light due to the illumination by hot,

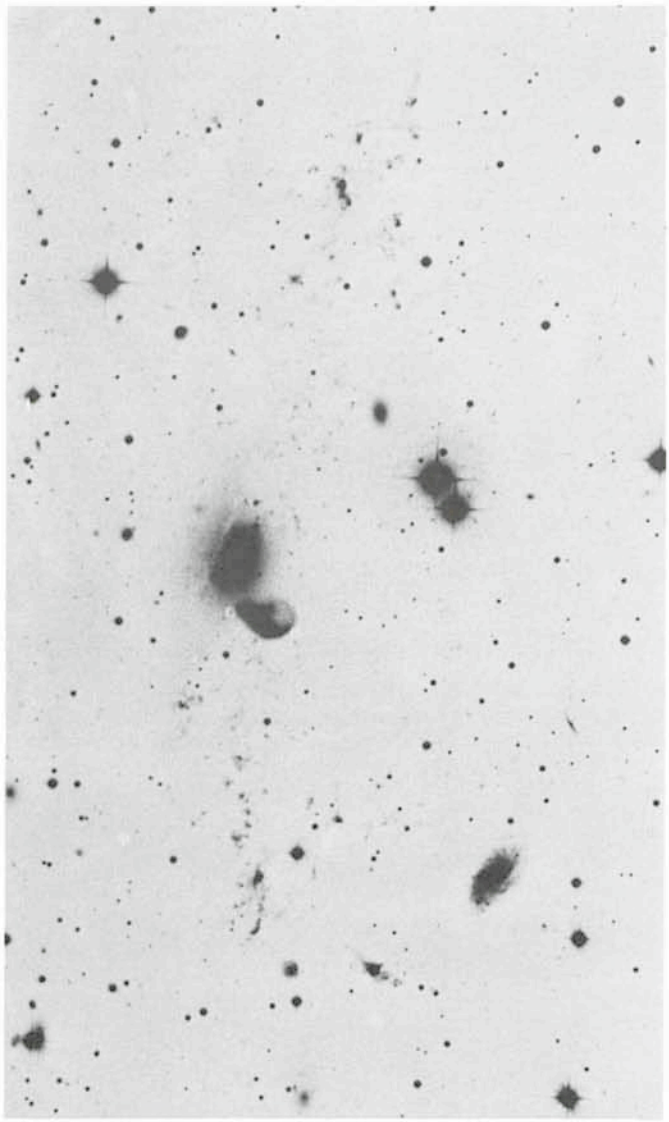

Fig. 1. — *The irregular tails around NGC 5291 and its companion galaxy. The material can be traced over 9 arc min which corresponds to 200 kpc at the distance of NGC 5291. Remark also the absorption lane crossing the eastern part of NGC 5291. The plate is an unfiltered 60-min exposure on IIIa–J. North is up and east to the left.*

luminous stars imbedded in the gas. But since the outermost knots are separated by as much as 100 kpc from NGC 5291, the transfer time of material drawn out would exceed by orders of magnitude the short life-time of the exciting stars.

The nature of the extragalactic material was therefore an open question, and since one of us had observing time on the 3.6 m telescope at La Silla, we decided to pursue the matter by some further observations. Plates were taken in the prime focus on two nights in March 1978. One of the plates (Fig. 1) is an unfiltered 60-minute exposure which was taken during the night March 9–10 when the seeing was good, about 1″. Another plate, a 60-minute red exposure, was taken two nights later when the seeing was inferior, about 3″. The first of these plates confirmed the knotted structure of the extragalactic material and a comparison of the two plates shows that it is clearly bluer than the galaxies in the field. These facts have led to an interpretation in terms of "extragalactic H II regions".

Such an interpretation does, however, call for further confirmation and we hope to be able to continue our studies, in particular by obtaining spectra of some of the brightest knots. But the knots are faint and the task will consume considerable time, even at a large telescope.

PERSONNEL MOVEMENTS

(A) Staff

ARRIVALS

Garching

Gisela VOSSEN (German), secretary, 1.6.1978

Geneva

Alain PERRIGOUARD (French), systems programmer, 1.4.1978

Roy SAXBY (British), photographer, 1.5.1978

DEPARTURES

Garching

Imke HEIDTMANN (Swedish), secretary, 31.5.1978

Geneva

Sten MILNER (Danish), mechanical engineer, 31.3.1978

Rudolf ZURBUCHEN (Swiss), electronics engineer, 30.4.1978

(B) Paid Associates – Fellows – Coopérants

ARRIVALS

Geneva

Scientific Group: Jean SURDEJ (French), Fellow, 27.5.1978

La Silla

Patrice BOUCHET (French), Fellow, 1.6.1978

With great grief we have learned that

Svend Bohn Lorensen

1942–1978

died suddenly in Copenhagen on March 1st, as a result of a serious illness. He leaves three children.

Svend, who joined ESO in 1971, had an early interest in astronomy (his father is also an astronomer although he later became a teacher) and concluded his studies at the Copenhagen University Observatory in 1969 with a brillant Ph.D. Svend could have made important contributions in any astronomical field of his choice, and he soon developed a special interest in the application of highly sophisticated computer techniques in astronomy, a field in which he became a leading figure. He was the author of the control software for many of the ESO telescopes, in particular the 3.6 metre, in high esteem by visiting astronomers. Much of the present and future ESO software is due to his foresighted ideas. A sudden deterioration of his health forced him to return to Copenhagen by the end of 1977 to undergo continuous medical treatment.

Svend was a true friend to his friends, and all of us who knew him—at ESO and elsewhere—can testify to his eagerness to help whenever and wherever needed. His modesty about his important accomplishments was legendary. He was always optimistic and continued to teach student classes until the day before his death. He had an inquisitive scientific mind with a great interest in artistic fields, he was a great music lover and a very good piano and organ player.

We all miss him very much.

Richard M. West