

ESO, the European Southern Observatory, was created in 1962 to... establish and operate an astronomical observatory in the southern hemisphere, equipped with powerful instruments, with the aim of furthering and organizing collaboration in astronomy... It is supported by six countries: Belgium, Denmark, France, the Federal Republic of Germany, the Netherlands and Sweden. It now operates the La Silla observatory in the Atacama desert, 600 km north of Santiago de Chile, at 2,400 m altitude, where nine telescopes with apertures up to 3.6 m are presently in operation. The astronomical observations on La Silla are carried out by visiting astronomers—mainly from the member countries—and, to some extent, by ESO staff astronomers, often in collaboration with the former.

The ESO Headquarters in Europe will be located in Garching, near Munich, where in 1979 all European activities will be centralized. The Office of the Director-General (mainly the ESO Administration) is already in Garching, whereas the Scientific-Technical Group is still in Geneva, at CERN (European Organization for Nuclear Research), which since 1970 has been the host Organization of ESO's 3.6-m Telescope Project Division.

ESO has about 120 international staff members in Europe and Chile and about 150 local staff members in Santiago and on La Silla. In addition, there are a number of fellows and scientific associates.

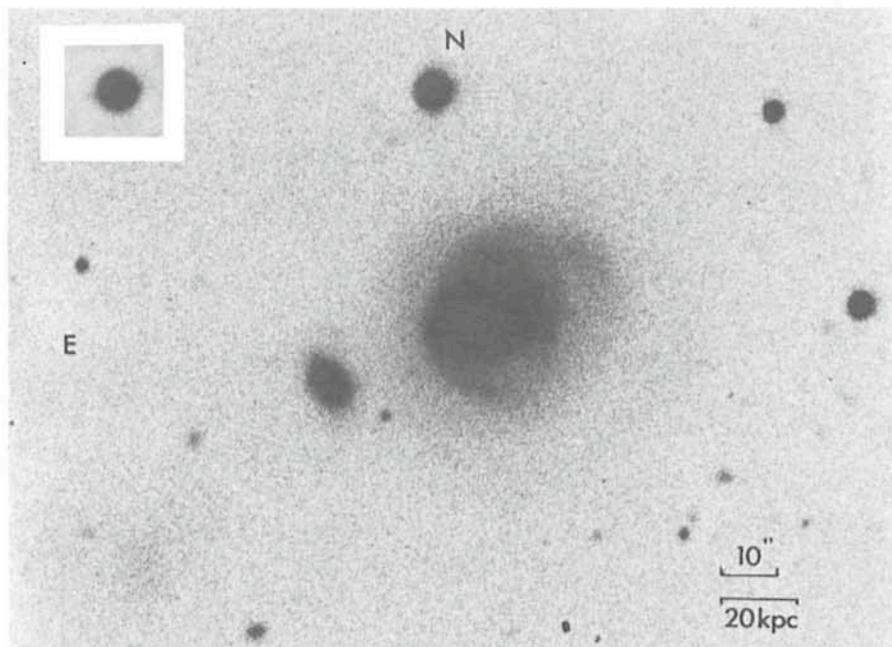
The ESO MESSENGER is published in English four times a year: in March, June, September and December. It is distributed free to ESO employees and others interested in astronomy.

The text of any article may be reprinted if credit is given to ESO. Copies of most illustrations are available to editors without charge.

Editor: Richard M. West
 Technical editor: Kurt Kjær

EUROPEAN
 SOUTHERN OBSERVATORY
 Schleißheimer Straße 17
 D-8046 Garching b. München
 Fed. Rep. of Germany
 Tel. (089) 3204041-45
 Telex 05215915 eso d

Printed by Universitätsdruckerei
 Dr. C. Wolf & Sohn
 Heidemannstraße 166
 8000 München 45
 Fed. Rep. of Germany



New "quasar-galaxy" ESO 113-IG45 photographed at 3.6 m prime focus. Exposure time 70 min on sensitized IIIa-J + GG385 (blue light). The insert shows a short exposure (same scale) of the nucleus, which is indistinguishable from a stellar image, cf. the star just under the "N". It is not yet known whether the companion galaxy, SE of the nucleus, is at the same distance. Original scale 19"/mm.

A Quasar in a Galaxy!

Astronomers have observed quasars since 1963. More than 600 are now catalogued, but we still know relatively little about them. Most scientists believe that they are at "cosmological" distances, i. e. that their redshifts reflect the expansion of the universe, and that they therefore are very distant and very luminous objects.

It appears that there is a smooth transition between the brightest Seyfert I galaxies (characterized by small, bright nuclei with broad emission lines) and the faintest quasars, and that quasars may simply be the very bright nuclei of galaxies so distant that we cannot see the faint spiral arms around the nucleus. This hypothesis is supported by the discovery of "fuzz" around some of the nearer quasars and of "mini-quasars" in the centres of some Seyfert I galaxies. The new galaxy, shown above, is unique, because it is relatively nearby (distance only 250 Mpc) and has a "real" quasar (absolute magnitude $M_V = -24$) in its centre.

Its name is ESO 113-IG45 (Interacting galaxy No. 45 in ESO (B) Atlas field No. 113; ESO/Uppsala list No. 5, ESO Scientific Preprint No. 8, June 1977). It was noted independently by a South African astronomer, Dr. A. P. Fairall, who obtained its spectrum by placing a grating in front of his telescope. This technique does not give the radial velocity, but Dr. Fairall classified the spectrum as "Seyfert" and comment-

ed on the stellar appearance of the nucleus (M. N. R. A. S. **180**, 391, August 1977).

Slit spectra were obtained in October 1977 with the Las Campanas 1 m Swope telescope by Dr. R. M. West of ESO. The importance of the object became clear when the redshift of the Balmer lines of hydrogen indicated a velocity of 13,600 km s⁻¹ for the 13th-mag object. The lines were very broad as in a Seyfert I galaxy. Within a few days, Dr. A. Danks obtained deep plates in the 3.6 m prime focus and G. Alcaíno made UVB photometry on several consecutive nights. The three astronomers have now submitted their detailed results for publication in *Astronomy & Astrophysics*.

They find that 113-IG45 is outstanding, both among Seyfert galaxies and quasars, because it has a well-developed "spiral structure" with a diameter of not less than 75 kpc (angular 64 arcseconds) and, at the same time, a bright nucleus (apparent magnitude 13.2) of quasar-appearance and -colours.

ESO 113-IG45 (R. A. = 01^h 21^m 9; Decl. = -59° 04'; 1950) will now be studied in detail in the hope that it may throw new light on the quasar phenomenon. Who knows, maybe it is really a "missing link"?

For LATEST NEWS see page 23