galaxy chain is shown in Sersic's atlas *Galaxias Australes* and he also made a preliminary spectroscopic study (*Astrophys. Space Science*, 1972, **19,** 387).

Improved photographic and spectroscopic observations have now been obtained with the 3.6 m telescope by ESO astronomers S. Laustsen (now at the Aarhus Observatory in Denmark) and R. M. West. The figure shows a 90-minute exposure in prime focus on IIIa-J emulsion behind a GG 385 filter. It appears that the galaxy consists of a central elliptical component, surrounded by a disk (?), perpendicular to the major axis of the ellipsoid. A heavy dust band is seen where the disk component shrouds the light from the elliptical. Many knots are in the disk, north and south of the central region.

The spectra show that the knots are low-excitation H II regions (ionized hydrogen) and that the disk apparently is rotating. The northernmost knots have velocities of about + 120 km s^{-1} and the southern –90 km s^{-1}, relative to the centrum. The spectrum of the elliptical component is of late stellar type, indicating that it consists mainly of stars. Contrarily most of the disk is made of gas and dust.

The distance to NGC 4650 A is about 50 Mpc and its N-S diameter is almost 40 kpc (projected).

There are a number of other galaxies that are morphologically somewhat similar to NGC 4650 A, although the individual shapes may vary significantly. Among these are several radio sources, like NGC 5128 (Cen A) and Cyg. A. Two Italian astronomers, Drs. F. Bertola and G. Galletta from the Asiago Observatory have recently begun a detailed study of these galaxies. They believe that they are all members of the same class of galaxies that has a prolate stellar structure cut equatorially by a gaseous plane. The dynamical behaviour of these systems is complicated and is not yet understood.

The Story of Minor Planet (2100) RA-SHALOM

The number of known Apollo-type minor planets has risen dramatically during the past years, mainly as a result of the great observational efforts by Californian astronomers. Two of these stand out as the discoverers of particularly interesting objects: Eleanor F. Helin and Charles T. Kowal of the California Institute of Technology in Pasadena. Working with the 46 cm and 122 cm (48 inch) Schmidt telescopes on the Palomar mountain, they regularly find new, peculiar minor planets.

Three years ago, Mrs. Helin discovered the first minor planet with an orbit *smaller* than that of the Earth. The planet, 1976 AA, was named after an Egyptian sun-god, ATEN. Soon after, yet another planet was found to have a similar orbit, lying mostly inside the Earth's orbit (1976 UA, cf. *Messenger* No. 7, p. 5). And now, in September 1978, Mrs. Helin found a third, 1978 RA. It has been proposed that these three should be called "Aten"-asteroids to distinguish them from the other Apollo-asteroids which, although they cross the orbit of the Earth, still have orbital periods of more than one year.

Fig. 1: *The discovery trail of RA-SHALOM, observed with the Palomar 46 cm Schmidt telescope on September 10, 1978.*

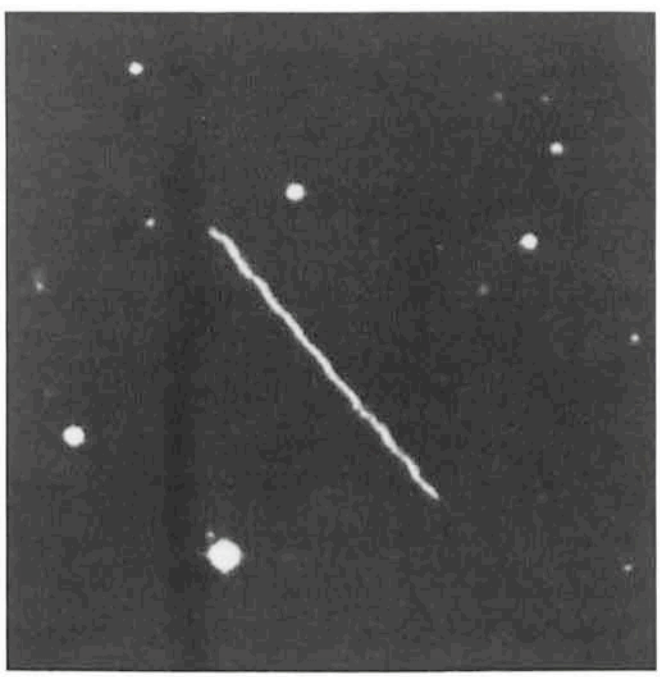

Fig. 2: *A follow-up observation of RA-SHALOM with the ESO Schmidt telescope on September 22, 1978. The trail is somewhat wiggly due to (insufficient) guiding. Exposure 30 min under very bad seeing conditions.*

1978 RA was discovered on September 10, 1978 with the Palomar 46 cm Schmidt telescope, on a IIa-D film, exposed for 20 minutes (see the photo). Further observations were made during the following nights and it soon became clear that the orbit was unusual. Then, on September 14, Dr. J. G. Williams, from the Jet Propulsion Laboratory, also in

Pasadena, had the good idea to search the literature for possible, earlier observations of 1978 RA. He was able to demonstrate that 1978 RA was identical with minor planet 1975 TB, which was found by R.M. West on two ESO Schmidt plates, late in 1975 (photo in *Messenger* No. 6, p. 11). However, at that time, only two plates were available, and the orbit could not be unambiguously determined.

Connecting the 1975 and 1978 positions, it became possible to establish the orbit of 1975 TB = 1978 RA with great precision. It turned out that it has the shortest known period among all asteroids, only 277 days, or very close to 3/4 of a year. It therefore spends most of the time well inside the orbit of the Earth and due to the relatively large eccentricity, 0.43, the perihel is only 70 million kilometres from the Sun, i.e. just outside the Mercury orbit. As a matter of fact, it can only be observed every third year, when it passes "behind" the Earth, as seen from the Sun.

With the prerogative of the discoverer, Mrs. Helin has decided that the new planet shall carry the name RA-SHALOM (the 1975 ESO observations do not count, because the orbit could not be established from only two observations). RA-SHALOM has been numbered (2100) on the MPC (Minor Planets and Comets) Circular 4541 and the name is explained (on MPC 4548) as follows: "Named by the discoverer for the Egyptian Sun-god RA, who symbolizes enlightment and life, and for SHALOM, the traditional hebrew greeting meaning peace. This name is chosen to commemorate the Camp David Mid-east Peace Conference, at which time this unusual body was found. May it stand for a symbol for universal hope for peace."

RA-SHALOM is unique in being the only Apollo- (or Aten-) type planet to have been discovered twice. Interestingly enough, the orbit was calculated in 1975 by Dr. Brian Marsden on the basis of the ESO observations (two long trails, i.e. four trail ends) and he found, among other possible orbits, also the correct one. However, at that time no minor planets were known to have the semi-major axis less than 1 A.U. (or a period less than one year) and that solution was rejected.

Photoelectric observations have been made of RA-SHALOM by Dr. E. Bowell of the Lowell Observatory at Flagstaff, Arizona. They show that it rotates once about every 12 hours and that it could be of carbonaceous composition. It may therefore be related to the very rare type of stony meteorites containing carbon, water and other volatile substances.

With the discovery of the third Aten-type minor planet, it has become clear that there may be a substantial number of minor planets inside the Earth's orbit. Attempts have been made to look for them by observing close to the Sun, but so far none has been found that way.

The ESO Finance Committee on La Silla

After seven years the ESO Finance Committee once again met for a regular meeting on La Silla.

Mr. Deloz (Belgium), its Chairman, and Mr. Grage (Denmark), Mr. Rey (France), Dr. Sandtner (Germany), Mr. van Welt (Holland), Dr. Ottosson (Sweden) arrived in Santiago during the weekend of November 4/5, 1978. On November 5 the official programme began with a welcome reception in ESO's Guesthouse in Santiago, offered by Prof. Woltjer, in honour of the delegates. Santiago staff, both international and local, were also invited.

On November 6, the guests flew to La Silla and toured the observatory site with all its many new installations. The morning of November 7 was dedicated to the committee work; in the afternoon the guests departed for La Serena, visiting the town and all ESO properties. Later at night, during an open-air barbecue in ESO's "Office Bungalow" in La Serena, committee members had another opportunity to meet representatives of the international and local staff working on La Silla.

On November 8 they visited AURA Inc. and their Tololo Observatory where the party was warmly received. After another busy morning of committee work they left La Silla in the afternoon of November 9. Some committee members went by car to Santiago in order to have a glimpse of beautiful Chile.

The Director General and his collaborators were happy to have the Committee once again at the observatory. They were pleased about the interest the Committee showed in the new installations and in the general conditions on La Silla. We sincerely hope that our guests liked their stay with ESO in Chile.

I. Meinen

PERSONNEL MOVEMENTS

(A) Staff

ARRIVALS

Garching

Robert FISCHER (French), Head of Contracts and General Services Branch, 1.2.1979.

Geneva

Klaus KLIM (Danish), Electronics Engineer, 1.12.1978.

DEPARTURES

Garching

Johannes VAN TOL (Dutch), Head of Purchasing/Transport Services, 31.12.1978.

(B) Paid Associates – Fellows – Coopérants

ARRIVALS

La Silla (Scientific Group)

Johannes VERMUE (Dutch), Fellow, 15.1.1979.

New Head of Scientific Group in Geneva

Following his appointment as Director of the Arcetri Observatory in Florence, Professor FRANCO PACINI has resigned as Head of the Scientific Group in Geneva as of 31 October 1978. He is succeeded by Professor PER OLOF LINDBLAD from Stockholm Observatory who has taken up his functions on 1 November 1978.