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News from Hartebeesthoek Radio Astronomy Observatory (HartRAO)

Now under the management of FRD (Foundation for Research Development), HartRAO is a "National Facility" for astronomical research at radio wavelengths, having been established in 1975 as a division of the National Institute for Telecommunications Research.

International cooperative projects continue to play a central role in activities. Principal among them is the application of the technique of very long baseline interferometry, or VLBI, in which global networks of radio telescopes resolve details in astronomical objects on an angular scale of 0.001 arcsec. VLBI observations between HartRAO and Australia of a prompt radio flare from SN1987A in the LMC, five days after the explosion, showed that the source was larger than 0.0025 arcsec.

Baselines connecting HartRAO to various telescopes in Europe and the USA were redetermined with an accuracy of 5 cm. This is the first time that this accuracy has been achieved for a station in the southern hemisphere and establishes Hartebeesthoek as the most precise reference point in Southern Africa. Geodesists and oceanographers now have the means to link local tide gauges into a globally referenced network with consequent improvement in the monitoring of ocean levels.

Other programmes made use of the catalogues of far-infrared objects produced by the Infrared Astronomy Satellite to search for hydroxyl masers in circumstellar shells. A new receiver was developed to study recently discovered methanol masers at 12.2 GHz. Nine new masers were found.

Long-term monitoring programmes include observations of 31 pulsars at 10-day intervals to determine rotational behaviour of associated neutron stars.

(From CSIR Annual Report, 1987)

Astronomy in SWA/Namibia

Since the foundation in October 1983 of an Astronomical Work Group in SWA and its association with the Scientific Society in Windhoek, a small number of dedicated amateurs has been very active in making observations and in bringing astronomy to the public. The first public observing evenings were organised in January 1984, just three months after the founding of the Group.

The Group were particularly busy at the time of Halley's comet, giving many talks to the public and at schools, and after their first detection of the comet (by Mrs S. Enke with a 203-mm telescope) on 4 November 1985, a public information service was started. March 1986 saw the arrival of many visitors to SWA to view the comet and on March 23, 48 amateurs attended a reception at the Scientific Society and a lecture on Star Occultations by H.J. Bode. Between April 1-13, an "Astro" camp was held at Karibib. At a farewell evening for the visiting amateurs at the end of April, H. Neumann of the Public Observatory, Frankfurt, gave a talk on "Black Holes" and a Halley "Good-bye" evening was held for the public at Avisdam at the end of May.

In July 1987, a sunspot study group was founded and this has contact with, amongst others, the Solar Section of ASSA. Astrophotography is another area in which the group is involved, and many photographs have been obtained of SN1987A, Comet Wilson and other objects; photographs showing SN1987A and Comet

Wilson in the same frame were obtained at the request of the British magazine "The Astronomer". In March 1987 an amateur, Frank Thielen, from Koblenz in West Germany visited SWA to obtain pictures of SN1987A (which appeared in the July/August issue of the magazine "Stern und Weltraum") and presented the group with a 114-mm refractor for youth work.

Arising out of exhibitions and demonstrations given by the group at the Rossing Young Scientist Exhibition in September 1985, the SWA Scientific Society was offered the optics for a 0.36-m telescope. However, they were unable to accept for financial reasons and passed the offer on to other interested parties. It was finally taken up by Rossing Uranium. The telescope was completed in August 1987 in the teaching workshops of that Company, under the leadership of Mr O'Shann. Rossing meanwhile announced that the telescope would be available for use by the public and schools and that it will be at the disposal of the Astronomical Work Group. The foundation stone for this public observatory was laid at the Rossing Agricultural Centre, Brakwater, on 19 March 1988.



Planetary grouping : Mars (at left), Saturn (at top) and Uranus (in line with Mars and below and to the right of Saturn) against the background of stars in Sagittarius at 05h00 SAST on 27 February 1988 (see chart in S & T February 1988 p178). Photograph by Sonja Enke, Windhoek (135-mm at f/2.8).