tions include the testing of welds and the detection of foreign bodies in frozen food. In another radiological contribution, Dr G. C. Wheeler (General Electric Co., Schenectady) described a variable energy accelerator with an output of up to 25,000 r min^{-1} at 10 MeV, suitable for testing steel up to 20 inch thick.

A theoretical contribution on eddy current methods was given by Drs V. G. Gherasimov, V. V. Soukhorukov, and N. P. Rtishcheva (Power Engineering Institute, Moscow). They described an analogue process for simulating defects in ferromagnetic materials in order to predict crack depths very reliably. On the more immediately practical side, Drs W. A. Decker and D. L. Waidelich (University of Missouri) described the design of an electric field probe emitting short high energy pulses into dielectrics; thus defects and metallic inclusions can be detected in plastic specimens up to 12 mm thick. A special feature is a correlation technique which, by making use of two receiving probes in different positions, keeps noise levels low.

A novel method of non-destructive testing was described by Dr H. Licht (Rheinisch-Westfälische Technische Hochschule, Aachen), in which Lamb waves are propagated in steel plates as a result of alternating Lorentz forces set up by eddy currents induced in the presence of a steady magnetic field. The transducer, in the form of a coil, does not have to be in contact with the material tested.

COSPAR

Plenty in Prospect

from a Correspondent

ONE of the highlights of the COSPAR meeting at Konstanz (May 23-June 6) was the series of contributions on the results from ERTS-1, the Earth Resources and Technology satellite. This satellite is in a 570-mile-high polar orbit and takes television pictures of 115-mile square regions of the Earth's surface in four colours—green, red and two in the near infrared. These pictures are proving of immense use for regional surveys of soil and terrain type, vegetation, geology, land use and water sedimentation and turbidity. The problems associated with mapping the more inaccessible regions of the world—for example, the Amazon Basin—are considerably lessened because the near orthographic view from ERTS-1 minimizes the distortion problems of conventional aerial mapping. Dr A. A. Jackson (University of Botswana, Lesotho and Swaziland) gave a dramatic account of how ERTS imagery is enabling Lesotho to make the best of its limited and scattered rainfall. In that country, which has few roads and limited communication, areas where rain had fallen and grass grown could easily be picked out from the images, thus enabling Lesotho to optimize its grazing potential and minimize the problems of overgrazing and subsequent soil erosion. Regions suitable for re-afforestation and diamond prospecting could also be identified.

Dr C. Sagan (Laboratory for Planetary Studies, Cornell University) revealed some of the latest information from the Mariner 9 mission to Mars. Dark streaks on the planetary surface were found to change with wind variations; these streaks were caused by the scattering of light by the larger dust particles which are blown about more easily. Interestingly the data obtained from ground based observations of the dark markings on the planet give a perfect picture of the Martian wind and weather patterns during the past century. The sizes of the two satellites Phobos and Deimos have now been measured accurately; given in terms of the radii of spheres with the same area these are 5.7 ± 0.5 km and 10.9 ± 1.5 km respectively.

Problems of lunar chronology are still very much in evidence. Dr H. W. Hinners (NASA, Washington) questioned why the Moon, formed 4.6 aeons (4.6×10^9 yr) ago, should suffer many large impacts 3.9 aeons ago and then after considerable volcanism become relatively inactive 3.1 aeons ago. He also pointed out that the distinctive isotropic and chemical dissimilarities with Earth indicate that the Moon did not fission from Earth, the Earth–Moon system thus being the result of a dual planet formation or a capture mechanism.

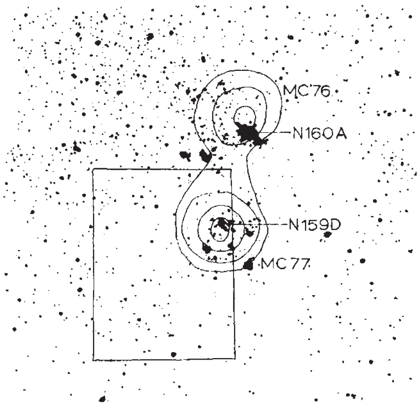
Returning to the Earth's atmosphere, Dr G. Witt (University of Stockholm) discussed the problems of deciding what forms the nucleation centres for noctilucent cloud crystals; it is still not clear whether they are dust particles (blown up from below or incident from space) or large water molecules such as hydronium H_3O^+ $(H_3O)_2$. Dr M. Dubin (NASA, Washington) put forward the thesis that the blue haze seen sporadically on Mars is analogous to terrestrial noctilucent clouds and is formed by water condensing on accreted cosmic dust which is being blown out of the Solar System. The fact that the Sun is surrounded by a dust cloud is well established, but the density variation of this cloud is still a matter of considerable discussion. Preliminary results presented by Dr R. K. Soberman (Drexel University, Philadelphia) and Dr Matha S. Hanner (Dudley Observatory, Albany) from their meteoroid and zodiacal light detectors on Pioneer 10 indicate that this problem is nearing a solution.

Thinking of the future, Professor L. Biermann (Max Planck Institute, Munich) discussed the possibilities of sending space probes to intersect comets, the two candidates being comet Grigg-Skjellerup in 1976 and comet Encke in 1980. Slowing down the spacecraft to extend the period during which it is in close proximity to the comet is particularly important. Experiments to investigate the size and structure of the nucleus, to measure, using mass spectrometers, the chemical composition of the coma and to study the solar wind–comet interactions were all propounded. Dr S. I. Rasool (NASA, Goddard) led the conference on a trip round the Solar System by describing NASA's plans for future missions which include the July 1975 Viking spacecraft which will soft land on Mars and will, by analysing soil samples using a gas chromatograph–mass spectrometer, look for life on that planet. Another project discussed was the 1973–74 gravity-assisted mission to Venus and Mercury which will endeavour to take about 7,000 television pictures of Mercury to a resolution of 1 km and 5,000 during the Venus flyby. Equipment will also be carried to measure the surface temperatures, topographies and atmospheric compositions as well as the planetary masses, spins and radii.

Candidate for LMC X-1

THE X-ray source in the Large Magellanic Cloud (2UO540-69) may be identified with the radio sources MC76 and MC77, according to Byrne and Butler (see *Nature Physical Science* next Monday, July 2).

Excluding 30 Dor, these two radio sources are the brightest in the LMC at 6 cm and 11 cm. Like five other known LMC sources, they form a double object with one thermal and one non-thermal component. They are identified with H II regions N 160 A (MC76) and N 159 D (MC77) and MC76 may be variable. At 55 kpc, the separation of the two sources is 120 pc.



Error box of LMC X-1 and 6 cm radio contours of MC76 and MC77 superimposed on B plate of the region.