

INTERNATIONAL

Cooperation in Space Research

In recent years, national space agencies have been established in countries throughout the world, and there has been a steady increase in the number of enterprises involving international collaboration in conducting experimental research programs in the upper atmosphere and outer space. The United States has participated directly in most of these programs in keeping with the intent of the basic legislation under which the National Aeronautics and Space Administration was created—namely, that the aeronautical and space activities of the United States “shall be conducted so as to contribute materially” to cooperation with other nations and groups of nations in the peaceful application of space research. In addition to participating fully in the work of COSPAR, the interunion Committee on Space Research of the International Council of Scientific Unions, the United States has cooperated with the United Nations and its specialized agencies and has endorsed bilateral arrangements between NASA and counterpart agencies in other countries.

To date, NASA has entered into cooperative agreements with nearly sixty different nations to carry out over one hundred separate projects, including those involving sounding rockets, deep-space probes, the cooperative launching of satellites, and ground-based programs in connection with meteorological and communication experiments. Two months ago, on December 5, 1962, NASA's program of bilateral cooperation with other nations gained new dimensions with the simultaneous announcement by the United States and the Soviet Union of a bilateral arrangement for collaboration between the two nations in the peaceful exploration and use of outer space.

The US-USSR program is mapped out in a “summary of understandings” which was signed last June in Geneva by Hugh L. Dryden, deputy director of NASA, and by A. A. Blagonravov of the Soviet Academy of Sciences. The agreement calls for the cooperation of the two nations (1) toward establishment of a global weather satellite system for the benefit of other nations, (2) on the compilation of a map of the earth's magnetic field using satellites for the further exploration of space and the advancement of the science of earth magnetism, and (3) on a passive communications experiment with Echo II.

The program in meteorology calls for establishing communication links for the exchange of satellite weather data gathered by each nation from its own experimental meteorological satellites, “. . . with the understanding that such transfers will include selected cloud-cover pictures, especially related to storms, vortices, fronts, and the generation of these phenomena,

with geographic coordinates provided for all pictures selected, together with nephanalyses based upon the data as a whole. . . . The same communication links would be used to exchange weather charts, diagrams, vertical cross sections, and the material required for solving the problems of world weather, including the extension of the prediction period.” A second phase of the program calls for the coordinated launchings within the next two years by the two nations of a system of operational weather satellites, again including provision for the full, mutual exchange of data.

The joint geomagnetic survey will involve the coordinated launching of two satellites (one by each nation) equipped with magnetometers, with mutual exchange of processed data of the resulting magnetic measurements. These launchings are to take place during the period of the International Year of the Quiet Sun (1964–65).

In addition to the agreement to cooperate in a passive satellite telecommunication study, the two nations have agreed to give further consideration to the possibilities of cooperation in joint experiments using active satellites that may be launched by either nation in the future.

The Naming of Satellites

On January 1, a change in the international system for designating satellites and space probes went into effect. Previously, satellites had been designated in order of the Greek alphabet, beginning anew each year; thus the first satellite of 1958 was 1958 Alpha, the second, 1958 Beta, and so forth. From now on, Arabic numerals will replace the Greek letters; the first launching of 1963 will be 1963-1, followed by 1963-2, etc. Since a single launching often places a number of objects in different orbits (one or more payloads plus the burned-out rocket casing), the new system also provides that the main component will be denoted by the suffix A, the next most important by B, and so on down to inert components. Under the old system, the navigation satellite, Transit II-A, its piggyback companion, Greb, and their spent rocket were designated 1960 Eta 1, 1960 Eta 2, and 1960 Eta 3, respectively. Had the new system then been in force, they would have been called 1960-7A, 1960-7B, and 1960-7C. The change was agreed upon last year by all national members of the Committee on Space Research of the International Council of Scientific Unions.

Traveler's Aid

Scientists planning trips to the Soviet Union or other countries of Eastern Europe and who want to find out