1117206 7

31 MAR 1960

CPYRGHT | OFFICIAL USE ONLY | FBIS 60 E009

USSR

MR

A 3 YEAR PROJECT MAPPING ELECTRIC CONDUCTIVITY OF THE SOILS IS BEING PREPARED BY THE INSTITUTE OF TERRESTRIAL MAGNETISM, IONOSPHERE AND PROPAGATION OF RADIO WAVES OF THE SOVIET ACADEMY OF SCIENCES. THE MAP OF ELECTRICAL PROPERTIES OF THE SOIL, INCLUDING ITS CONDUCTIVITY TO A DEPTH OF 11 TO 15 METERS, WILL DETERMINE THE DEGREE OF THE EARTH'S ABSORPTION OF RADIO WAVES, THE AUDIBILITY OF RADIO TRANSMISSIONS, THE ZONES OF DISTORTION, AND THE BEST LOCATIONS FOR TRANSMITTING AERIALS. THE MAP WILL HELP AIR NAVIGATORS TO CORRECT READINGS OF AUTOMATIC EQUIPMENT DURING FLIGHT. THE KNOWLEDGE OF THE CONDUCTIVITY OF SOIL IS IMPORTANT IN BUILDING OIL AND GAS PIPELINES AND IN LAYING UNDERGROUND CABLES. RADIO HAMS, WORKERS, AND STUDENTS HAVE BEEN INVITED TO HELP IN COMPILING THE MAP BY TAKING MEASUREMENTS WITH PORTABLE APPARATUS EVOLVED AT THE INSTITUTE. THE SOVIET MAP IS BEING MADE ACCORDING TO THE PRINCIPLE OF CONDUCTIVITY AT EACH GIVEN SPOT AND NOT THE ROUTE PRINCIPLE WHICH APPROXIMATES CONDUCTIVITY BETWEEN TWO POINTS. (MOSCOW, TASS, ENGLISH, JAN. 6, 1960, 1415 GMT)

CODE	COUNTRY	PS	AF CHART	ACTIVITY CODES
491	USSR	723		403

LOCATION	S/T	NAME OF INSTALLATION	PL. NO.
MOSKVA		CPYRGHT	PF

DATE/INFO DA MO YR	DATE/SOURCE DA MO YR	CONTROL NO.	SOURCE	EVAL
JAN 61	18 MAY 61		AID #458	

SOURCE: AID #458 18MAY61

The Institute of Terrestrial Magnetism, the Ionosphere and Wave Propagation, Academy of Sciences USSR, has designed a spectrum analyzer for determining the instantaneous frequency of variable atmospheric interference signals with an average frequency variation ratio of about $2 \cdot 10^4$ c/sec·sec. The signals are recorded on a tape recorder and transcribed on a tape loop (full time of rotation, 1.5-2.75 sec). Change of frequency with time can be observed visually by an oscilloscope. The raster has 50 lines with each tenth line brightened for better reading. The analyzer has four frequency ranges (0-4, 0-12, 0-6, and 0-20 kc). A block diagram of the analyzer circuit and signal spectrograms are given. (Likhter, Ya.I., S.M. Prozumenshchikov, and Ya.P. Sobolev. Pribory i tekhnika eksperimenta, no. 1, Jan 1961, 96-99) S/120/61/000/001

2216422 11/491 WJR

22 DEC 1960

USSR CPYRGHT | OFFICIAL USE ONLY | FBIS 60 H 6972 (438)

September 1960 marked the 10th anniversary of the Irkutsk laboratory of time and frequencies of the all-union institute of physico-technical and radio-technical measurements. The laboratory's rather small collective determines local time by measurement of moving heavenly bodies, transmits exact time signals, and controls transmission of such signals by domestic and foreign radio stations. The volume of scientific research performed by the laboratory has expanded considerably in a comparatively short time. The laboratory has been augmented by new, more modern equipment which permits scientific work with extreme accuracy. This year, for example, new apparatus is being used to transmit signals with a deviation from absolute accuracy of only .0002 (two ten-thousandths) of a second. To obtain these results, the equipment had to be improved locally, which was done by a group under Perkhokutskiy, senior scientific worker of the laboratory. This laboratory was the first in the USSR to begin use of the Danjon prismatic astrolabe, a device for astronomic measuring of ephemerides. Instruments have been converted for semi-automatic and individual observations, and much other work has been done. (Text) (Irkutsk, Russian, Sept. 29, 1960, 1100 GMT)