Soviet preparations on the basis of this research.

Chazov discussed the potential advantages of organizing joint work on certain problems, such as development of preparations for treating AIDS patients. He claimed that the USSR Academy of Sciences' Institute of Molecular Biology has the potential to develop such a preparation quickly. He mentioned that he and colleagues developed a method for synthesizing nalokson (a preparation for treating drug addiction and shock) in collaboration with academician A. V. Fokin. Chazov went on to discuss steps which have been taken to improve the system for testing and appraising medicinal preparations and medical technology. A Main Scientific-Technical Administration is being created in the Ministry of Health, for example. All control institutes are being combined into an Institute for State Expert Review, and a new system is being introduced for the purpose of substantially expediting the testing of new drugs. Under this system, the first clinical stage in the study of a preparation will be completed in 14 days. A conclusion will then be issued in regard to the advisability of continuing work on the preparation.

Marchuk endorsed the idea of targeted planning for promoting the advancement of medical research of major importance in key areas. He noted that drafting of a special large-scale program has been proposed for this purpose. Such a program would provide, among other things, for future integration of efforts of the USSR Academy of Sciences and AMN SSSR with those of the ministries of the medical and microbiological industry, the chemical industry and the ministry of instrument building, means of automation and control systems. Chazov felt that work on specific problems of combating AIDS should be included in such a program.

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Author: *Lvov, Grigoriy*
Title: *HUMAN PHYSICAL FIELDS STUDIED WITH EXTRA-SENSITIVE EQUIPMENT*
Primary Source: *Sovetskaya Belorussiya, August 20, 1987, No. 191 (17074), p. 3, cols. 1-7*

(continued next column)

Abstract: The article reports on methods used by scientists of the USSR Academy of Sciences' Institute of Radio Engineering and Electronics to study fields which occur around human beings and other living organisms in the course of breathing and other vital processes.* This research was directed by academician Yuriy Gulyayev and Doctor of Physical-Mathematical Sciences Eduard Godik. Initial results of the project were reported recently at a scientific session of the USSR Academy of Sciences' Department of General Physics and Astronomy.

A unique computerized measuring complex consisting of several connected systems was developed at the radio engineering institute for the project. This equipment is said to include an infrared-imaging system; a computer complex; capacitive antennas for recording movements of low-energy electric charges on a subject's skin; a unit consisting of a magnetometer and a superconductive quantum interference sensor (skvid); a special phonon-counting system for recording changes in the skin's luminescence; and apparatus for monitoring the condition of the subject's immediate surroundings, using such methods as thermography and laser spectroscopy. The imaging system, which records infrared radiation from 16,000 points on the body's surface, is capable of measuring their temperature 10 times a second with a precision of hundredths of a degree, it is claimed. This information is transmitted to the computer, which is used to distinguish sections on the skin's surface where temperatures change in certain ways, and to trace the pattern of these changes over a period of time. The skvid-magnetometer is said to be capable of measuring magnetic fields which are billions of times weaker than the Earth's magnetic field. Subjects' fields were measured with the aid of 64 sensors connected to this unit. Correction for interference from external sources, such as electromagnetic fields of natural objects and industrial facilities, was done with the aid of the computer complex and

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special devices.

The complex reportedly enabled the scientists to obtain original experimental measurements of the intensity and spatial distribution of fields surrounding living beings, and also to determine human sensitivity to fields generated by another human organism. This was accomplished by simulating fields with instruments. It was found that a human being is capable of sensing changes in another person's infrared radiation, and possibly also of sensing low-energy electric fields of another organism. It was discovered that the skin can sense variations in a heat flow from an external source which are on the order of 0.3-0.5 milliwatt per square centimeter, for example.

*See also the *Daily SNAP*, January 8, 1987, p. 1, col. 2

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Correction: On page 2 of the September 9, 1987, issue of *SNAP*, the first sentence of the item on an explosion for military purposes should read: "On August 25, at 3:00 p.m., Moscow time, a ground burst of a conventional explosive charge was conducted ..." The title should be corrected accordingly.

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