



The author of the following note, besides being professor of physics at New York University, is president of the Explorers Club and has recently been elected to the governing council of the American Geographical Society. The high-altitude station he describes is perched on the top of Sulphur Mountain, shown in the photograph at left. The diagonal streak of white across the mountain is the access road to the station from Banff.

Canadian High-Altitude Station at Sulphur Mountain

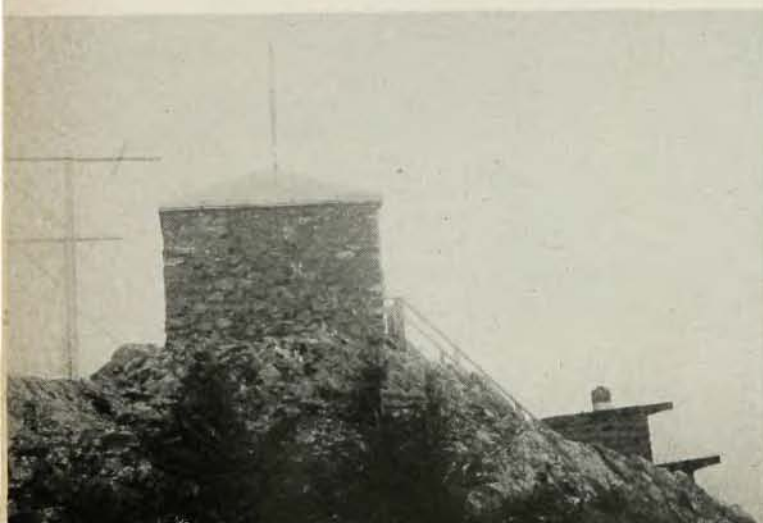
By Serge A. Korff



Interior of the Sulphur Mountain Laboratory, showing cosmic-ray meson telescope in center. Dr. Wilson is at the oscilloscope.

A RECENT and a most welcome addition to the roster of high-altitude research facilities is the new Canadian station on Sulphur Mountain near Banff, Alberta, in the Canadian Rockies. This station is of particular importance because, in addition to being well supplied and equipped, it is also the only high-altitude research facility in this area, and therefore is of so much importance in completing the world network of stations. The importance of the location was underscored at the 1954 Rome meeting of the Special Committee for the International Geophysical Year (CSAGI), by the Geographical Coordination Committee of which the present author was fortunate to be a member. This Committee considered what should be the optimum distribution of stations all over the world in order best to intercept cosmic-ray impact zones and favorably to locate many other important IGY research activities such as auroral studies and ionospheric physics. The establishment of a station in the Rockies was recommended at that meeting.

Specifically, this station is on top of Sulphur Mountain, directly adjacent to the town of Banff, Alberta, well known to tourists because of its scenic beauty. The geographic coordinates of the building are 51.1° north latitude and 115.6° west longitude. The geomagnetic



At far left is the VHF directional antennas for scatter studies, in the center the old meteorological shelter, and at the right can be seen a portion of the new station.

latitude calculated in the usual way is about 58 degrees north. The town of Banff is at an elevation of 4500 feet, and the laboratory is at almost exactly 7500 feet. The automobile road from Banff to the station is some 7.5 miles in length, of which the first half is a provincial highway in the vicinity. The last 3.8 miles is a rather steep cut in the hillside up which a jeep can go, using four-wheel drive and double low gear, bouncing over boulders. The average grade is 20% for a major part of the road. Power arrives over a line which looks as if it could ultimately deliver 100 kw, about 15 being the present requirement, 60-cycle ac at 4 kilovolts. The main room in the laboratory has 15×40 feet in floor space and bunks for two are installed. Cooking is done on a two-burner electric hot plate, and water is brought up from below by jeep and stored in a tank. Unusual for high-altitude stations generally, a flush toilet is also there. It is planned to keep the station in operation all year around. During the winter, it is expected that the road will be impassable for a few days at a time following heavy snowfalls. A plow arrangement can be mounted on a D6 cat or on the jeep, and a three-mile hike on snowshoes is certainly no great hazard.

At present, the station already houses a neutron monitor, of the Canadian standard type, consisting of a set of BF₃ counters in a paraffin pile complete with automatic scaling and recording, and in addition a cubical meson telescope, also fully automatic. Two pulsing ion chambers will soon be installed. The University of Maryland is sending a high-resolution cosmic-ray counting arrangement to the laboratory. The field of ionospheric physics is represented by a vhf radio unit studying forward scatter and automatically recording field strengths received from radiating elements at Yellowknife, North West Territories, some 750 miles to the north. The town of Banff being visible below, line-of-sight communication can be installed if required.

The station is at present under the competent supervision of Dr. B. G. Wilson, who is the Officer-in-Charge. Its mail address is Box 958, Banff, Alberta. It is under the over-all cognizance of the National Research Council of Canada, which organization, it will be recalled, is very different from our own NRC. The Canadian one performs many of the same functions which our National Science Foundation, National Bureau of Standards, and Central Radio Propagation Laboratory perform. The Canadian IGY program, which provided the initiative resulting in the establishment of the station, is under the capable direction of Dr. D. C. Rose of Ottawa, who is chairman of the Canadian National Committee for the International Geophysical Year and also of the Coordination Committee. His name is well known to readers of the cosmic-ray literature. The Dominion of Canada has every right to point with pride to this fine station, which has already taken an important place in the North American chain of high-altitude observatories, and at which, as fortunately often happens in the field of cosmic rays, the personnel is both technically competent and personally pleasant, the facilities are good, and the view is superb.

PROCEEDINGS OF THE CONFERENCE ON MAGNETISM AND MAGNETIC MATERIALS

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