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1. In summer 1951 the East German Academy of Sciences acquired the grounds and the buildings of the former Reichspost Research Institute in Miersdorf near Zeuthen. A plan was drawn up and approved by the State Planning Commission and the Council of Ministers to establish a new Academy institute on this site. The new institute was to do research work in the field of nuclear physics. Although it has been frequently referred to as Institute for Nuclear Physics, its official name has been and is now the Academy Institute Miersdorf.
2. The following is a description of the Academy Institute Miersdorf as of mid-August 1953: 1/
 - a. The institute grounds are situated south-west of Lake Zeuthen in an area called Hankels Ablage, which belongs to Miersdorf although surrounded by Zeuthen territory. Its northeast border, about 65 meters long, is a stone wall about 2.20 meters high. On the southeast side it is fenced off by a wooden fence, also about 100 meters long. An iron fence about 65 meters long with two entrances, separated by a distance of about 30 meters, forms its southwest border.
 - b. The center of the grounds is occupied by a hall (H), which in Reichspost times housed two cascade generators. When the plan to establish a new institute was made, this hall was selected to house a cascade generator to be built by TRARC, Dresden (formerly Koch und Sterzel). For this purpose, the hall has been undergoing construction changes since late 1951. The old cement floor, which was about two meters above the soil and rested on supports, was demolished, and the soil was deepened considerably in order to create space for the new cascade generator, which was too high for the old hall. The deepened soil was lined with cement. The deepest spot, which will be directly underneath the acceleration tube of the new cascade generator and will serve as radiation chamber, is about five meters lower than the level of the original soil. Difficulties arose when the water of Lake Zeuthen penetrated into the deepened area. The water had to be pumped out for an entire year. A number of suction pumps were placed around the hall. In early August 1953, pumping was discontinued, and it is believed that the hall will stay dry from now on.

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- c. The northwest and west part of the hall are bordered by a one-story building which served as a laboratory building in Reichspost times. This building (B) will receive an additional story in the near future. It now serves as a work house for the institute personnel, who use its former laboratories, which are very poorly equipped, as work rooms. The northeast part of this building is occupied by a temperature control installation (T) for the hall. Its southeast and southwest side are joined by a small building (C), which houses the heating installation.
- d. On its southwest side building (B) adjoins another building (W), which in Reichspost times housed the Reichspost cyclotron. This building is now being, and will in the future be, used as a storage house and a work shop.
- e. The northwest part of building (B) is adjacent to building (L), which has been constructed since the latter part of 1951. It has a ground floor and an additional story. It is the laboratory building of the new institute, with sixteen laboratory rooms. The building is not yet complete, although external construction is finished. The laboratories are not yet equipped; only a few pieces of equipment are there.
- f. Southwest of building (W) between the two entrances through the iron fence is a small house called the "30 kV station". This house (S) will in the future serve as a power-feed house for the generator in hall (H). At present the house is still empty.
- g. A new building in the shape of a reversed L, constructed after 1951, is located opposite the southern corner of hall (H). This building (E) is the electrolytic station of the new institute. It was built in connection with plans mentioned below to produce heavy water. It is now unoccupied.
- h. A two-story villa is located opposite the eastern corner of the hall. This villa (V) houses the administration and the mess hall of the new institute.
- i. An old residential house (R) stemming from Reichspost times is located opposite the northern corner of the hall. It will be demolished in the near future.
3. In the summer of 1951, an order was placed with TRARO, Dresden, (formerly Koch und Sterzel) for construction of a 2.2 MeV cascade generator. Originally the order requested a generator with one acceleration tube only. Later a second tube was ordered; it is to serve as a substitute tube when the first one is out of order. The generator will be placed in hall (H). Due to the delay in completing the hall, the instrument has not yet been delivered. The present institute work schedule foresees arrival of the generator without the second acceleration tube in October 1953 and completion of its mounting by the end of 1953. This schedule, however, will probably not be met, even if the generator arrives in time, because the accessory equipment to be built in the institute, such as target equipment, ion source, magnetic analyzer, etc. is far from completion.
4. From the beginning, the institute experienced difficulties in finding a director. Offers were made to nuclear physicists in West Germany with very favorable terms; none of them were accepted. In late July 1952, Count MickSOX1-HUM, (Schulenburg), Munich, accepted an offer to become one of the department chiefs of the institute and subsequently joined it. As of August 1953, the institute was still without a director; Schulenburg fulfills the functions of a commissary director. Shortly after Schulenburg's arrival at Miersdorf, a commission called Kuratorium Miersdorf was founded. It was placed in charge of the Miersdorf project and is sometimes unofficially referred to as the East German Atomic Commission. This designation, however, is misleading; at best, the Kuratorium might be considered as the nucleus of a future East German Commission of this kind.

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The Kuratorium, which is believed to be directly responsible to the Council of Ministers, includes the following persons: Professor Walter Friedrich, president of the East German Academy of Sciences and head of the Academy Institute for Medicine and Biology, Berlin-Dach; Professor Robert Rompe, head of the Academy Institute for Radiation Sources, Berlin, Warschauer Platz, and head of the Second Physical Institute of Humboldt University, Berlin; Professor Friedrich Hoeglich, head of the Academy Institute for Research on the Physics of Solids, Berlin-Dach; Professor Rudolf Leeliger, Greifswald University; Dr. Georg Utterbein, Referent for Technical Sciences at the Academy; Professor Stamm (fnu) TRARO, Dresden. The Kuratorium has held sessions about once every two months.

5. As of August 1953, the organizational structure and the personnel roster of Institute Miersdorf were still very incomplete:

a. Only one department has been definitely set up: the so-called Hauptabteilung (Main Department), which is headed by Schulenburg. Schulenburg was assisted for some time by Diplom physicist Manfred Wagner

The department, which has not yet taken up organized research work, plans to engage mainly in nuclear spectroscopy and mass spectroscopy. Among Schulenburg's plans for the future are construction of an electro-magnetic isotope separator and study of electron diffraction and electron scattering by thin foils. Construction of a vaporization installation for making thin foils is also planned.

b. A Generator Department will take charge of the operation of the cascade generator. It has not yet been definitely decided whether the Department is to be independent or whether it will be a part of Schulenburg's Main Department. The Generator Department will be headed by Dr. Baier (fnu), who joined the institute in mid-1952 after his return from Russia, where he had done electronics work in Gorki and Leningrad. Baier, assisted by Diplom physicist Siegfried Goering, who came from Jena to join the institute in February 1952, is now doing preparatory work for setting up the Department, pending arrival of the cascade generator.

c. It is planned to establish a Department for Cosmic Radiation Research, to be headed by Diplom physicist Karl Lanus, formerly with Rompe's Second Physical Institute of Berlin Humboldt University. Lanus joined the Miersdorf Institute in November 1952. In February 1953, Frau Irene Hauser, also from Rompe's institute, became Lanus' assistant. At present, Lanus and Frau Hauser are engaged in organizing balloon ascents (for exposing photoplates) at Wernigerode (Harz mountains). So far, three ascents have been made with three or four balloons each. The photoplates exposed are of the K2 type prepared by Agfa Wolfen. Lanus is now testing a photoplate K4, also from Agfa Wolfen, which has a thicker nuclear emulsion than K2. As of mid-August 1953, no ascent with K4 had yet been made. Four scanners for the evaluation of the photoplates for "rare events" are attached to Lanus' department; two of them are Erich Kloss, who will leave the Institute on 1 September 1953 to take up studies in physics, and Fraulein Wilke (fnu).

d. Diplom physicist K. F. Alexander who studied physics at the Max-Planck Institute for Physics in Goettingen under Professor Karl Wirtz and at Rompe's Second Physical Institute, has not yet been assigned to a present or future department of the Institute. His work at the Miersdorf Institute concerns the measurement of Sorct coefficients with the aid of glass membranes provided with fine pores, delivered by the Schott firm, Jena.

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- e. Schulenburg and the above-mentioned physicists at present represent the entire scientific staff of the Miersdorf Institute. They are assisted by a number of laboratory workers and technical assistants. One of the laboratory workers is Frau Annemarie Dierks. It is planned to increase the scientific staff considerably in the future. In June 1953, a total of about 15 Diplomanten and students were assigned to the Institute, where they are to attend practical exercises in preparation for their diploma examinations. In October 1953, two Diplom physicists, Huhn (fnu) and Voigt (fnu), are expected to join the institute. Keck (fnu) of Leipzig University and an unidentified assistant of Professor Fruehauf, Dresden, have also been invited to join the Institute in the near future. It is also planned to assign a technician of RFT Funkwerk Erfurt to work with the institute.
- f. The Institute Work Shop located in building (w) is headed by Christians (fnu), a friend of Baier who returned with the latter from Russia. One apprentice and three mechanics are working with Christians.
6. As pointed out above, the Institute in its present stage is still very poorly equipped. Pending arrival of the cascade generator, its main pieces of equipment are: a) an ion source according to Finkelstein, developed by Goering; one experimental model is about completed; b) a high-frequency transmitter to be used for a planned high-frequency ion source; c) an installation for the (photographic) development of nuclear photoplates and microscopes for their scanning; d) an experimental arrangement (Versuchsanordnung) for the ion optics of a planned mass spectrometer, prepared by Wagner. The Work Shop has two or three precision lathes, a milling machine, a boring machine, spot welding equipment and a small air compressor.
7. The following are research projects assigned to the Miersdorf Institute in 1953:
- a. Study of the primary component of cosmic radiation in high altitudes which can be reached by balloon, assigned to Lanius and Hauser.
- b. Development of a mass spectrometer for the measurement of relative frequencies (isotope relations) of natural and artificial elements, assigned to Schulenburg and Wagner.
- c. Development of an ion source generator, assigned to Baier and Goering.
- d. Research on installations for the production on a laboratory scale of heavy water, assigned to Wagner.
- It became known, in August 1953, that among the 1954 research projects to be assigned to the Institute are the following; they are in addition to the 1953 orders still in progress:
- e. Measurement of energy loss of electrons when passing through thin foils and development of an electron spectrophotograph. This project will be assigned to Hajak (fnu), a Diplomant in Rompe's institute who is to join the Miersdorf Institute in the near future.
- f. Study of electron diffraction.
- g. Development of an electromagnetic isotope separator, to be assigned to Schulenburg.
- h. Development of a lens beta-spectrometer and construction of two models for coincidence measurements of beta electrons and conversion electrons. This project was to be assigned to Wagner. It is not known who will take it over after Wagner's defection.

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8. Many rumors have been circulated concerning the heavy water research and alleged heavy water production in the Miersdorf Institute. The following are the actual facts on this research: In November 1951, the Referent for Technical Sciences of the East German Academy of Sciences, Dr. Georg Otterbein, asked Manfred Wagner to start the development of a laboratory installation for the production of 500 cubic centimeters of heavy water according to the electrolytic process. Wagner was the first physicist assigned to the Miersdorf Institute. He was not experienced in heavy water development, and he started his work with a study of literature. Later on he ordered and received from the Schott firm in Jena thirty glass cells about 35 centimeters high, with a three-liter volume each, to be used as a heavy water laboratory plant run manually. He also had the electrolytic station (E) built in order to separate his experiments from the main buildings, in view of the danger of explosion by oxyhydrogen gas. In the fall of 1952, before any actual work on the production of heavy water had been started, Otterbein informed Wagner that Kuratorium Miersdorf had failed to obtain permission from the Russians to carry out heavy water development. This permission was needed, however, in view of Control Council laws forbidding research of this type. Otterbein pointed out that the Russians had not disapproved the project, either; they simply had not answered the application for permission. According to Otterbein, efforts to obtain Russian permission were continued with the assistance of the State Planning Commission. The State Planning Commission had assured Otterbein that Russian permission would eventually be granted. In November or December 1952 a session was called at the low-temperature laboratory of Rompe's Second Physical Institute at Humboldt University, in which the following persons participated: Schulenburg, Otterbein, Wagner, Dr. Xaver Eder of the Second Physical Institute, an unidentified official of the State Planning Commission and an unidentified industrialist from an enterprise producing low-temperature equipment in the Erzgebirge region. In this session, the plan to produce heavy water on a laboratory scale in the Miersdorf Institute was confirmed. The question of Russian approval was not mentioned, but the prevalent impression at the session was that the Russians had meanwhile granted the approval. During the session, Eder explained that use of the electrolytic procedure in Miersdorf was impractical. He advanced a project whereby heavy water would be produced there on a laboratory scale according to the Clusius method of rectification of liquid hydrogen. Eder pointed out that this procedure, of relatively recent origin, had already been applied successfully in the United States. Eder's proposal was adopted. 4/ As a result, the plans to produce heavy water according to the electrolytic process were cancelled; the electrolytic station (E) in Miersdorf was subsequently converted into an annex of the Work Shop. Orders were given to the unidentified industrialist to provide the Miersdorf Institute with the required rectifying equipment by the end of 1953. In May 1953, a cost estimate for this equipment arrived in Miersdorf. In this estimate the equipment was said to serve for the production of between five and ten grams of heavy water per day. Until this equipment arrives, heavy water development in Miersdorf will of necessity have to be confined to the study of literature.

9. In November 1952 and in March 1953, the Miersdorf Institute received visits from scientist Janossi, Budapest. On the occasion of his visits, plans to place a small cyclotron into the Miersdorf Institute were discussed, but these plans were ultimately abandoned. No other foreign scientist of repute has ever visited the Institute. During July 1952, a Russian Commission consisting of two officials and one interpreter inspected the institute. No other visits by Russians have occurred. In December 1952, Otterbein and Schulenburg were called to Karlshorst and subjected to a lengthy interrogation by Russians concerning the Institute, its structure, equipment and aims. Upon his return, Schulenburg reported confidentially and in a state of excitement to Institute members that the interrogation had been rather unfriendly; the two Germans had been made to wait a very long time without food in an unheated room, and the Russian interrogators had been mainly interested in learning from them whether Institute personnel were engaged in research kept secret from the Russians. Since, on this occasion, the Germans spoke freely of their heavy water project without Russian reprimand, it may be assumed that at least there is no Russian objection to the project.

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Comment. See the attached sketch, which is not to scale.

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Comment. Lder has a hydrogen liquifyer in his laboratory. Another one is in the Academy Institute for Research on the Physics of Solids of Professor O. Stasiv, formerly Dresden, now Berlin-Diershof. At the meeting, Lder said that he would start liquefaction of helium in about six months.

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Comment. Lajos Janossi, Director of the Institute for Experimental Physics in Hungary.

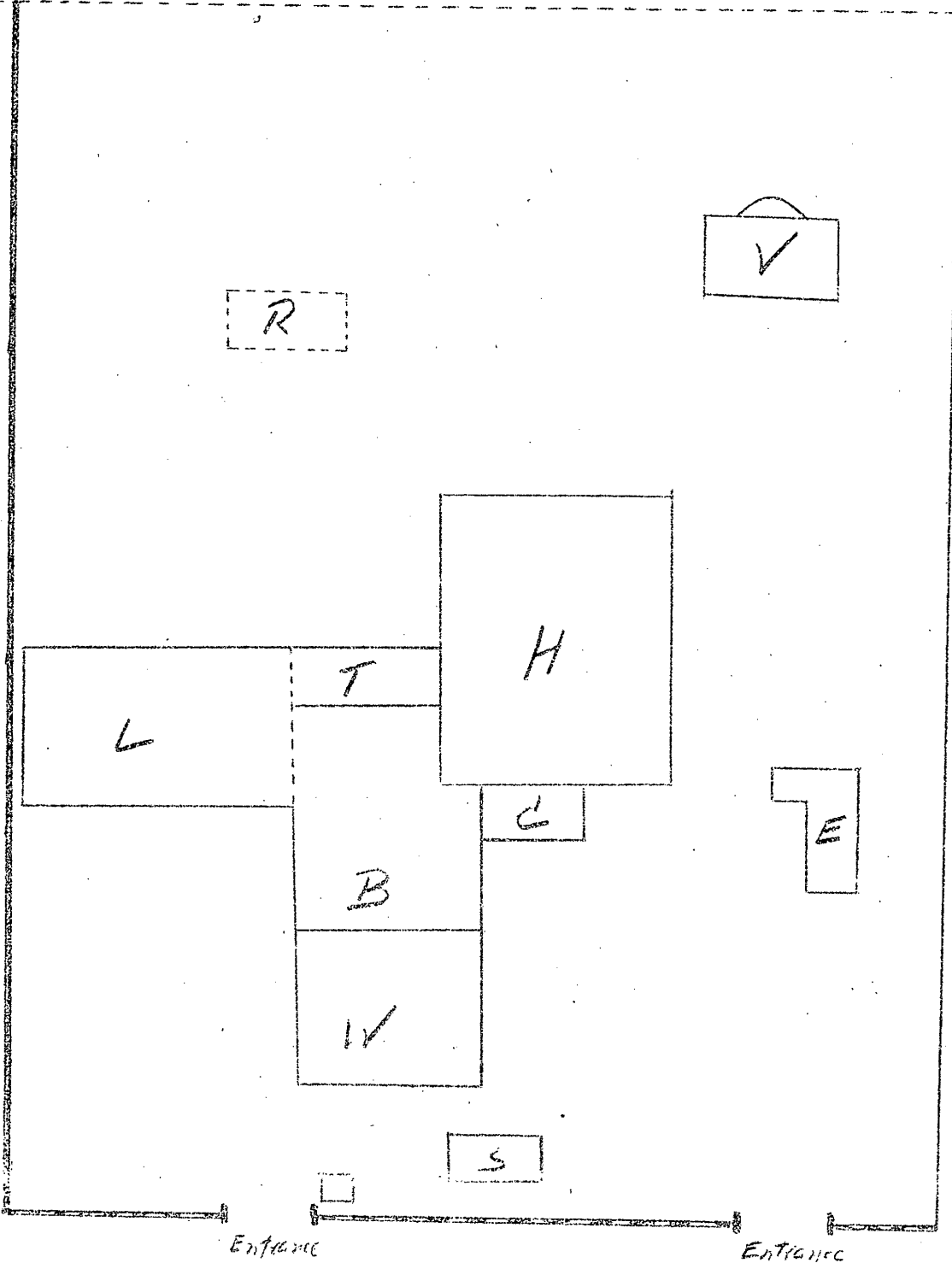
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