

SANTEL, IJ.

Congenital atresia of the intestine. Acta chir. Jugosl. 9 no.1:70-73
'61.

1. Kirurski otjel Djecje bolnice u Zagrebu (Sef dr B. Poljugan).
(INTESTINE SMALL abnorm)

SANTEL, Lj.

Sarcoma of the bladder in a 2-year-old child. Acta chir. Jugosl.
11 no.2:166-169 '64

1. Kirurški odjel Dječje bolnice u Zagrebu (Sef: prim. Dr.
B. Poljugan).

SANTELAZHE, N., inzh.-ekonomist.

Grain milling industry Georgia. Muk.-elev. prom. 24 no.1:23 Ja '58.

1, Gruzinskiy politekhnicheskiy institut im. S.M. Kirova.
(Georgia--Grain milling)

SANTELDZE, N.V., aspirant

Indices of the productive capacity of wine making enterprises.
Trudy MTIPP no.19:26-37 '62.

Indices of the utilization of capital assets in the wine making
industry. Ibid.:38-48 (MEA 17:4)

SANTGOL'ZER, V.

Results of systematic measurements of radioactive fallout
in the year following the ending of nuclear weapons tests.
Atom.energ. 9 no.1:56 JI '60. (MIRA 13:7)

1. Kafedra fiziki meditsinskogo fakul'teta Karlova universiteta,
Gradets Kralove, Chekhoslovakiya.
(Radioactive fallout)

SANTGOL'ZER, V.

Radioactive fallout in Czechoslovakia during 1959-1960. Atom.
energ. 12 no.5:432-433 My '62. (MIRA 15:5)

1. Kafedra fiziki Meditsinskogo fakul'teta Karlova universiteta,
Gradets Kralove.

(Czechoslovakia--Radioactive fallout)

SANTHA, Istvan

A small ~~one~~, portable valve voltmeter. Radiotechnika 13 no.2:65-66
F' '63.

SANTHOLZER, ROBERT

Lacquers for the measurement of the strain of the metal surfaces upon which they are applied (stress coat method).
Robert Santholzer (Inst. Paint Technol., Vyzkum, Czech.)
Chem. Průmysl, 3, (28), 180-8 (1953).—The best lacquers for stress-strain analyzers are those prepd. from synthetic resins. The solvent is not of foremost importance, however, those with CS₂ as solvent, or prepd. with solvents which contain CS₂, are preferable. As the application is dangerous, fire-fighting equipment must be ready when the applications are made. The lacquers are applied with a brush. One will obtain the same coating which can be obtained when ordinary lacquer is applied with the spray gun. For good results, the temp. and the relative moisture of the surrounding air must be controlled. The analysis of these lacquers is simple and does not require any special equipment. After one has once selected the suitable brittle resin, the lacquer will always be easy to duplicate.
Werner Jacobson

(2) 5

MA

SANTZHLZER, R.

"Micaceous Iron Ore as a Pigment," p. 199.
(Chemicky Prumysl, Vol.3, No.5, May 1953, Praha.)

SO: Monthly List of East European Vol.2, No.9
Accessions / Library of Congress, September 1953, Uncl.

SANTHOLZER, R.

"Modern methods of protection against corrosion." II. "Recent development in anticorrosive pigments." (Conclusion) p. 439. (Chemicky Prumysl). Vol. 3, no. 12, Dec. 1953. Praha.)

SO: Monthly List of East European Accessions, Vol. 3, no. 6, Library of Congress, June 1954.
Uncl.

SANTHOLZER, R.

"Classification of Insulating Varnishes and Methods for their Use." (Supplement) p. T114.
(ELECTROTECHNICKY OBZOR, Vol. 42, No. 12, December 1953, Praha, Czechoslovakia).

SO: Monthly List of East European Accessions, LC, Vol. 3, No. 5, May 1954, Unclassified

SANTHOLZER, ROBERT.

Udržba a opravy nateru automobilu a motocyklu. [Vyd. 1.]

Praha, Czechoslovakia. Statni nakl. technicke literatury, 1959. 139 p.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 11, Nov. 1959
Uncl.

SANTHOLZER, R.

Reactive basic paint as a modern anticorrosion protection. Supplement. p. 1.

TECHNICKA PRACA. (Rada vedeckych technickych spolocnosti pri Slovenskej akademii vied) Bratislava, Czechoslovakia. Vol. 11, no. 8, Aug. 1959.

Monthly list of East European Accessions (EEAI), IC, Vol. 8, no. 10, Oct. 1959. Uncl.

SANTHOLZER, R.

Defects in coating materials and coatings. Pt. 1. (To be contd.)
(Supplement) p. 1.

Technicka Praca. (Rada vedeckych technickych spolocnosti pri Slovenskej
akademii vied) Bratislava, Czechoslovakia, Vol. 11, no. 11, Nov. 1959.

Monthly List of East European Accessions (EEAI), LC Vol. 9, no. 2,
Feb. 1960

Uncl.

SANTHA, A.; GATI, T.

The effect of synthetic plasma expanders on the absorption of glucose in experimental combined hemorrhagic shock. Acta physiol. hung. 17 no.4:391-399 '60.

1. Health service of the Hungarian people's army and Institute of Pathophysiology, University Medical School, Budapest.

(PLASMA SUBSTITUTES pharmacol)

(SHOCK exper)

(GLUCOSE metab)

BIOGRAPHY

GARMA, A., Dr, medical Lieutenant-Colonel (orvosalezredes);
[Affiliation not given].

"Experimental Data on the Early Radiation Reaction of the Digestive System II. Changes in the micromotility of the Small Intestine in Animal Experiments as a Result of General or Abdominal Radiation Exposure."

Budapest, Orvosdokorvos, Vol 14, No 4, Oct-Dec 62, pp 305-316.

Abstract: [Author's Hungarian abstract abridged] Micromotility stops within a few hours after general or abdominal irradiation with doses of 200-800 r as shown in dogs. The stoppage is preceded by a transient stimulation which may be avoided by antihistamine and ganglion-inhibitor treatment. Motility changes may be produced also in unirradiated dogs with crossed carotis circulation, explicable in terms of a transfer of so-called "radiotoxins". If 0.1 N HCl is introduced into the duodenum of the starved and irradiated donor animal, this will revive the micromotility of both, donor and acceptor, within 16-24 hours of the irradiation.

1/2

SANTHA, Andras, Dr, physician lieutenant colonel; Health Service of the Hungarian People's Army (A Magyar Nephadsereg Egeszsegugyi Szolgalata) and the Frederic Joliot-Curie National Radiation Biological Institute (Frederic Joliot-Curie Orszagos Sugarbiologiai Intezet) (director: VARTERESZ, Vilmos, Dr, candidate of medical sciences).

"Experimental Data on the Early Radiation Reaction of the Digestive System III. The Changes in Carbohydrate Absorption due to X-Ray Irradiation."

Budapest, Honvedorvos, Vol XV, No 3, July-Sept 1963, pages 242-249.

Abstract: [Author's Hungarian summary] Dogs irradiated with supralethal doses of X-ray have been joined by cross-carotid circulation to non-irradiated dogs. The determination of glucose and xylose absorption in both dogs, in the initial hours after irradiation, gave the following results: 1. X-ray irradiation decreases the absorption of carbohydrates noticeably, already in the early post-irradiation phase. The inhibition is observed in both dogs although to a lesser degree in the non-irradiated dog; 2. the further decrease in the glucose and xylose absorptions is not proportional. The differences indicate that the initial stress effect and the increased permeability of the intestinal mucosa manifest themselves earlier in the absorption of the xylose than of the glucose. In the latter case, the disturbance of phosphorylation plays a decisive role; 3. initially, the rate of the development of sugar absorption disturbance is slower in the irradiated than in the non-irradiated animals. This is attributed to an increased motility
1/2

HUNGARY

Budapest, Honvedorvos, Vol XV, No 3, July-Sept 1963, pages 242-249.

of the intestinal villi in the early stages of irradiation which compensates temporarily for the combined defects of absorption due to disturbances in the circulation, oxidative phosphorylation and other stress effects; 4. the results of the experiments confirm previous findings by the author which indicate that early intestinal disturbances, due to irradiation, can have a humoral transfer to non-irradiated animals. The assumed humoral mediator inhibits some enzymatic processes and increases the permeability of the mucosa. The results of sugar absorption tests are not quite clear cut because of antagonistic factors present, which cause some modifications. 11 Eastern European, 18 Western references.

2/2

12

ABSTRACT: ... successfully demonstrated that ... in vitro to the effect of ionizing ... method used

HUNGARY

SANTHA, Andras, Dr, physician-lieutenant colonel, cand. of med. sci.; Hungarian People's Army, Health Service (Magyar Nephadsereg Egeszsegugyi Szolgalata), and National 'Frederic Joliot-Curie' Research Institute of Radiobiology and Radiation Hygiene (director: VARTERESZ, Vilmos, Dr, cand. of med. sci.) (Orszagos 'Frederic Joliot-Curie' Sugarbiologiai es Sugar-egeszsegugyi Kutato Intezet).

"Metoklopramid as an Antiemetic in the Primary, General Irradiation Reaction of Experimental Animals (Preliminary Communication)."

Budapest, Honvedorvos, Vol XVIII, No 4, Oct-Dec 66, pages 313-321.

Abstract: [Author's Hungarian summary modified] The effect of metoklopramid (Paris) on the motility of the digestive tract and its antiemetic effect were studied in animal experiments. Previous literature reports were confirmed according to which the compound is an antiemetic with low toxicity and a broad range of effectiveness which has a beneficial influence on the motility of the digestive tract. In addition to the alleviation of the emetic component of primary irradiation reaction, it is a suitable drug also because it suspends the gastric retention which accompanies irradiation and it increases the rate of intestinal passage. It also enhances the movement of intestinal villi, thereby facilitating resorption. It decreases the readiness of the intestinal wall toward antiperistalsis, this being one of the mechanisms of its local action. This is a preganglionic effect and does not inhibit the effect of phenothiazines and ganglion blockers. In therapeutic

1/2

RUMANIA

SANTIA, A., Lieutenant-Colonel, Medical Dr., Candidate in Medical Sciences, Physician Emeritus (candidat in stiinte medicale, medic emerit) (Peoples Republic of Hungary)

"Role of Nonspecific Humoral Mediators in the Appearance of Biological Affects of Ionizing Radiation"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; pp 438-450

Abstract: X-irradiated dogs and rabbits with 200, 400, 800 and 1200 r: intestinal "micromotility" increases sharply initially, then falls much below the normal values; intestinal absorption of xylose and glucose falls off even in the parabiotic dog (non-irradiated dog sharing circulating blood with irradiated mate); immunologic studies indicate that necrosine is involved. 7 graphs, 7 photomicrographs, 5 immunoelectrophoregrams.

SANTHA, A.

1616. Coagulability of the depot blood of the spleen. J. Balogh,
L. Csizmadia, L. Ludány and A. Santha. *Acta physiol Acad Sci Hung.*
1955 7: 297-301. Pathophysiol Inst. Med Univ. Budapest.
Hemolysis. Circulation blood clots in 12 sec; splenic depot
blood in 17 min; 49 sec. There was no difference in the fibrinogen
content of circulation and depot blood. "Genuine" depot serum
activates thrombin to a greater degree than circulation serum.
(German) A. B. L. BRZNAK

HUNGARY

SANTHA, Andras, Dr, physician-lieutenant colonel, FABER, Viktor, Dr, physician-lieutenant colonel, BARDOS, Edit, technician; Health Service of the Hungarian People's Army (A Magyar Nephadsereg Egeszsegugyi Szolgalata) and the Frederic Joliot-Curie National Radiation Biological Institute (Frederic Joliot-Curie Orszagos Sugarbiologiai Intezet (director: VARTERESZ, Vilmos, Dr, candidate of medical sciences).

"Experimental Data on the Early Radiation Reaction of the Digestive System IV. Absorption and Excretion of Corpuscular Matter After X-Ray Irradiation."

Budapest, Honvedorvos, Vol XV, No 3, July-Sept 1963, pages 250-256.

Abstract: [Authors' Hungarian summary] The mucosa of the small intestines of dogs, irradiated abdominally with supralethal (800r) doses of X-ray, show such permeability already in the first hours after irradiation, that coarse corpuscular matter introduced experimentally into the intestines (dry starch, charcoal powder, cobalt dust) can penetrate it in both directions. As opposed to the normal mucosa, the radiation injury causes permeability not only toward the lymphatic ducts but also toward the capillaries of the villi. This was shown by absorption experiments with clamped thoracic ducts. The granules do not pass through spots without epithelium since in the early stages such spots are not yet present. The factor which increases the permeability can be transferred to non-irradiated dogs by crossed-carotid circulation. The spreading effect of X-ray irradiation, as seen by experiments with corpuscular
1/2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
COMMON ELEMENTS																									COMMON VARIANTS																																																																										

ca 8

Radiological survey of Czechoslovakia. W. Saitzholzer and F. Ulrich. *Nature* 133, 401(1934).—The radioactivity of the springs of the Krukonos (Rieser Gebirge), Jizersa Mts., has been systematically detd. The water of the strongest springs contains 10^{-15} g. Ra per l. Chem. and mineral. analyses of the neighboring rocks have also been made. At Zaly (Heidelberg on Benecko) waters become radioactive through their long contact with phyllite (8.3×10^{-13} g. Ra per g.) and orthogneisses (4 to 7×10^{-12} g. Ra per g.). B. C. A.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
COMMON ELEMENTS																									COMMON VARIANTS																																																																										

CA

3A

natural and artificial orders of radioactive elements.
Sikla-Sautbolzer. *Chemie* (Prague) 3, 83-8 (1948).--Be-
sides showing the transformations occurring in the natural
U-Ra, Ac, and Th orders, S. presents a table showing the
recompn. products of the artificially prepd. U²³³ and Pu²³⁹
isotopes. F. Maresch

1452

CA

3A

Hygienic physics, chemistry, and technology. Video
Anthology. *Chemie* (Prague) 4, 210-11 (1948). S. discuss-
the protection of not only the workers but the entire popu-
lace from the effects of radioactive products and radioactive
waste products. Solid waste products can be buried in
isolated regions, liquid waste products can be stored and
later diluted to unarmful concns., and gases have to be
filtered before they are released into the atm. F. Mareš

1952

CA

Progress in nucleonics and nucleonic engineering.
V. Southgate. *Chem. Listy* 42, 137-41(1948): 43.
18--41-3(1949).--A review with 64 references.
M. Hulický

CA

Calculation of the amount of radioactive fission products
in a uranium pile. V. Santholzer. *Chem. Listy* 43, 274.
(1949).—Theoretical treatment and derivation of the
equations of disintegration. M. Hudlíček

CA

54

New isotopes of heavy elements. V. Santoluczer. *Chem. Listy* 44, 88-9, 116-18(1951).-- A review by M. H.

VAVRA, Rudolf; SANTHOLZER, V.

Validity of the quadratic law in electrocardiology. Cas. lek.
cesk. 91 no.52:1547-1551 26 Dec 52.

1. Z Vojenske lekarske akademie v Hradci Kralove.
(ELECTROCARDIOGRAPHY,
quadratic law in)

SANTHOLZER, V.

"Calculation of the Potential in Electrocardiography," p. 292.
(Casopis Lekarů Ceskych, Vol.92, No.11, Mar. 1953, Praha.)

SO: Monthly List of East European Accessions, Vol. 2, No. 9 Library of Congress, September 1953, Uncl.

SANTHOLZER, Vilem (Col. Prof. Dr. of Natural Sciences) (Hradec Kralove Military Medical Academy)

Author of article, "Basis of Hydrogen Weapons, " discussing the splitting of uranium and plutonium, thermonuclear reaction, and deuterium as a basic raw material for hydrogen weapons, and giving the theoretical breakdown of deuterium into tritium and the subsequent processes. He states that the most important components of hydrogen weapons are the isotopes deuterium, tritium, and probably lithium. He compares the effects of a hydrogen bomb to those of the atomic bomb, and states that the USSR has both the hydrogen and atomic bombs at its disposal.
(VZL, Feb. 55)

SO: Sum. 600, 1 Aug. 1955,

KOSMAK, I.; SANTHOLZER, V.

Certain biophysical characteristics of ultrasonic therapy.
Cas. lek. cesk. 94 no.50:1374-1377 9 Dec 55.

1. VLA v Hradci Kralove.
(ULTRASONICS, therapeutic use,
biophysical aspects)

AUTHORS: Santholzer, V., Podzimek, J. and Macku, J. CZECH/37-58-6-15/30

TITLE: Systematic Observations on the Radioactivity of Rain and the Proof of the Artificial Radioactivity of the Atmosphere (Soustavná měření radioaktivity atmosferických srážek a důkaz umělé radioaktivity atmosféry)

PERIODICAL: Československý Časopis Pro Fysiku, 1958, Nr 6, pp 716 - 721 (Czech)

ABSTRACT: Systematic measurements of the radioactivity of atmospheric showers have been made here since December, 1956. The β -activity of each rain- or snowfall was measured. The rain is collected in a permanently open flat container of about 1 m² area, situated 8.5 m above ground level. The water runs off the container into a collecting vessel and is then transferred into a flask for boiling. The water is boiled under reduced pressure until its volume is considerably reduced. It is then transferred onto an aluminium dish and is dried completely by infra-red radiation. The β -activity is measured by a Geiger counter with a well-defined geometrical arrangement and good screening for the reduction of background activity. Calibration by a radioactive standard has shown an overall counting

Card1/4

3

CZECH/37-58-6-15/30

Systematic Observations on the Radioactivity of Rain and the Proof of the Artificial Radioactivity of the Atmosphere

efficiency of 14%. The measured activity is always normalised to 1 litre of water. The statistical error is about 5% for weak samples and 2% for strong ones. Figure 1 shows the results of measurements up to September 30, 1957. The largest activity was recorded on August 14, 1957 and was 6 000 pulses in 5 minutes for 1 litre of rain. Several other maxima in the radioactivity have been observed. In a series of rainfalls, the first is commonly the most radioactive. The dependence on time of the radioactivity of each sample has been studied. In Figure 2, the activities of two samples, taken on January 8, 1958 and January 9, 1958, are plotted as functions of the time elapsed since a nuclear test. The function follows the law discovered

by Way and Wigner (Ref 5) $A_t = A_1 t^{-n}$.

A_1 is the total activity 1 sec after an atomic explosion, n has a value between 1 and 1.5, usually

1.2 (Ref 2). The above relation is fulfilled in our case and it therefore seems likely that the mixture of

Card2/4

CZECH/37-58-6-15/30

Systematic Observations on the Radioactivity of Rain and the Proof of the Artificial Radioactivity of the Atmosphere

radioactive isotopes in the rain is the same as that found in samples of rain or dust collected in the vicinity of atomic explosions.

A search for α -activity was undertaken with counters and photographic plates but no α -radiation was detected. Admittedly, the methods employed were not sufficiently sensitive to detect very weak α -activity.

An estimate of the energies of the β -particles was made by measuring the absorption of the total radiation by aluminium foil. A very rough analysis showed mainly two types of radiation, namely, 0.6 MeV and 1.9 MeV (Figure 3). This analysis does not contradict the assumption that the measured activity is due to nuclear test explosions (Ref 8).

By comparison with a 90 Sr standard preparation, it was estimated that the activity per litre of rainwater on May 2, 1957 and August 14, 1957 was 2×10^{-9} and 4×10^{-9} curie, respectively. This is in agreement with the results of other workers (Refs 2 and 7).

Card3/4

CZECH/37-58-6-15/30

Systematic Observations on the Radioactivity of Rain and the Proof
of the Artificial Radioactivity of the Atmosphere

There are 3 figures and 15 references, 3 of which are
French, 4 Czech, 5 English, 1 German and 2 Soviet.

ASSOCIATION: Ústav lékařské fyziky VLA a Geofyzikální ústav
ČSAV, Hradec Králové (Institute of Medical Physics
of the Military School of Medicine and Institute of
Geophysics of the Czech Ac.Sc., Hradec Králové)

SUBMITTED: September 30, 1957

Card 4/4

SANTHOLZER, Vilém

Distr: 4E2a 19

✓ Artificial radioactivity of the atmosphere as a consequence of nuclear test explosions. Vilém Santholzer (Karlova Univ., Hradec Králové, Czech.). *Jaderná energie* 5, 378-82(1959).—The biol. effects of local, tropospheric, and stratospheric fallout are discussed. Original measurements on samples collected both before and after the stoppage of tests show that, within a few months after a test explosion, it is possible to det. its date from the decay of the β -activity; after this time, the general background from previous tests is too strong. H. Newcombe

SANTHOLZEN, V.

Succen increase of radioactive fallout. Jaderna energie 6 no.5:
175 My '60.

CZ/38-60-1-6/24

AUTHOR: Santholzer, Vilém (Hradec Králové)

TITLE: Results on Measuring Artificial Radioactivity of the Atmosphere
in Czechoslovakia. 19

PERIODICAL: Jaderná Energie, 1960, No. 1, pp. 16 - 20

TEXT: The author discusses various methods which may be employed to measure the degree of radioactivity, and gives the results of measuring the artificial radioactivity of atmospheric precipitations for a period of 32 months. He also gives the results of measuring radioactivity of nuclear fallout during the last eight months, which is an evaluation of the period subsequent to the cessation of nuclear tests. The dependence of the decay rate on the age of the specimen up to the period of two years is demonstrated. Also the so-called age index of several specimen with light masses has been roughly determined. There are 6 diagrams. (✓)

ASSOCIATION: Katedra fyziky lékařské fakulty Karlovy university (Physical Section of the Medical Faculty at the Karl University)

Card 1/1

81795

Z/037/60/000/03/005/014

216300

AUTHOR: Santholzer, Vilém

TITLE: Results of Measurement of the Fall-out¹⁹ Over a Period of One Year After the Stopping of Nuclear Tests

PERIODICAL: Československý časopis pro fysiku, 1960, Nr 3, pp 216 - 218

ABSTRACT: The results of these measurements have shown that the amount of fall-out has dropped substantially. During the first six months after stopping the tests, the amount of fall-out remained practically the same as it was before. The cumulative activity of the first half year after cessation of the tests (up to April 30, 1959) was 121 mc/km^2 and for the second half year (up to October 31, 1959) it was only 54 mc/km^2 . It is probable that a permanent decrease

lx

Cardi/3

81795
Z/037/60/000/03/005/014
E073/E335

Results of Measurement of the Fall-out Over a Period of One Year After the Stopping of Nuclear Tests

in the radioactive fall-out has begun since, during the last three months, not a single "signal" activity was observed. The average daily activity in October, 1959, was only 0.07 mc/km². The cumulative activity for the whole year after cessation of the tests, i.e. up to October 31, 1959, was 10⁴ mc/km². The relatively long time taken to clear the troposphere from man-made radioactivity is attributed to the contamination of the lower strata of the stratosphere. Furthermore, the influence of somewhat abnormal meteorological conditions during the autumn of 1959 cannot be ruled out. This problem will be dealt with in a further paper, which will also deal with the fall-out of strontium 90. Acknowledgments are expressed to Doctor J. Podzimek for his assistance in evaluating the results.

Card2/3

81795

Z/037/60/000/03/005/014

E073/E335

Results of Measurement of the Fall-out Over a Period of One
Year After the Stopping of Nuclear Tests

ASSOCIATION: Katedra fyziky lékařské fakulty Karlovy university,
Hradec Kralové (Chair of Physics of the Medical Department,
Charles University, Hradec Kralové)

SUBMITTED: February 19, 1959

X

Card3/3

SANTHOLZER, Vilem

17

Results of measurements of artificial radioactivity of the atmosphere in Czechoslovakia. Vilem Santholzer (Masaryk Univ., Hradec Králové, Czech.) *Jaderna energie* 6, 16-20 (1960).—Fallout in rain was measured for 32 months, and dry fallout for 8 months. After evapn. and ashing of the samples, their β -activity was detd. with an end-window counter. The fallout was always greatest during rain, lowest immediately after rain. The av. fallout has not yet decreased since the stopping of nuclear tests. When the activity of a given sample was followed for 600 days, the date of the test from which the sample originated could be detd. by a simple graphical method. The effect of mixing with fallout from other tests was evident only for old samples. The activity A decreases according to $A = A_0 e^{-\lambda t}$, where t is the time and λ is 1.13 up to 100 days, increases up to 1.64 for longer times. Some samples, with initial values of n of 3 or 4, must have contained activities other than fission products. Since old samples contain higher proportions of $Sr^{90} + Y^{90}$, with higher β -energies, than short-lived fission products, the β -energy can be considered as an "age index." A practical difficulty in the detn. of the age index was the effect of self-absorption in the samples.

H. Newcombe

Z/038/60/000/009/002/005
A201/A026AUTHOR: Santholzer, VilémTITLE: Increase of Fallout Radioactivity^A Due to Nuclear Tests in the Sahara

PERIODICAL: Jaderná energie, 1960, No. 9, pp. 294 - 298

TEXT: From the steep increase of fallout activity as measured by katedra fyziky lékařské fakulty Karlovy university (Department of Physics at the Medical Department, Charles University) in Hradec Králové in March and April 1960, the author shows that these increases are beyond any doubt due to the nuclear tests in the Sahara on February 13, 1960 and April 1, 1960, respectively. The above Department engages in systematic measurements of fallout activity. It obtains samples from conventional collection vessels, one of sheet metal, the other of plastic. Specimens are collected in periods of 1 - 3 days, in case of increased fallout activity even daily. In addition, monthly control specimens are collected. The beta activity of the samples obtained is compared to a reference standard sample Sr-90 + Y-90, which is made available to the Department by Academician František Běhounek of the dosimetrické oddělení Ústavu jaderného výzkumu (Dosimetric Section, Institute of Nuclear Research). Systematic measurements are per-

Card 1/2

Z/038/60/000/009/002/005
A201/A026

Increase of Fallout Radioactivity Due to Nuclear Tests in the Sahara

formed by an automatic measuring system including an automatic sample changer and pulse-count recording on a paper tape designed by Engineer Jiří Macků and built at the department workshop. Since the discontinuation of nuclear tests in November 1958, the fallout activity kept decreasing and reached a low of 0.03 millicurie/km²/day in November 1959 remaining at this value until the end of February 1960. On March 1, 1960, a fallout activity of 17.65 millicurie/km²/day was measured which dropped to 0.04 millicurie/km²/day after 3 weeks. Then again, on April 9, 1960, the activity rose to 0.70 millicurie/km²/day. The decrease of activity with time is given by the relation $A = at^{-n}$, where a is a constant, t is the time counted from the data of the nuclear test. The exponent n was found to be 1.2 - 1.4 for dry fallout and 1.2 for the dry residue of rain precipitations. (The reason for this difference of the two exponents could not be explained.) By the extrapolation of the increasing fallout "half-life", graphs were plotted which proved that the date of origin of the March activities was February 13, 1960 and that of the April activities April 1, 1960, i.e., the dates of the nuclear test explosions in the Sahara. There are 11 figures and 7 references: 2 Czechoslovak, 2 Soviet, 2 English and 1 West-German.

ASSOCIATION: Katedra fyziky lékařské fakulty Karlovy university (Department of Physics at the Medical Department, Charles University) in Hradec Králové

Card 2/2

SANTHOLZER, V

Use of graphical methods in measuring the radioactivity of nuclear fallout. V. Santholzer (Karlsruhe Univ., Federal Republic of Germany). *Chemical Abstracts*, 77, 10, 65-68 (1960). A description and discussion are given of 4 graphical methods suitable for the treatment of data on the nuclear fallout. The usefulness of the proposed methods has been verified by means of analysis of actual material collected over a no. of yrs. Attention is drawn to the data of the data of nuclear tests. Attention is drawn to the residual radioactivity originating from previous tests. R. Zahradnik

3

SANTHOLZER, Vilem; NCSEK, Jaroslav

Strontium 90 in milk during 1957-1960, and its relation to radioactive fallout. Jaderna energie 6 no.7:217-221 JI '60.

1. Katedra chemie a katedra fyziky lekarske fakulty Karlovy university, Hradec Kralove

SANTHOLZER, V.

A report of Rumanian physicists on highly radioactive centers
(hot particles). Jaderna energie 6 no.8:287 Ag '60.

SANTHOLZER, Vilem

Increase of radioactive fallout in consequence of the nuclear tests in the Sahara desert. Jaderna energie 6 no.9: 294-298 S '60.

1. Katedra fyziky lekarske fakulty Karlovy university, Hradec Kralove.

SANTGOL'ZER, V.

Increase in the radioactivity of fallout at Hradec Králové
(Czechoslovakia) as a result of nuclear testing in the Sahara.
Atom.energ. 9 no.4:324-326 0 '60. (MIRA 13:9)

1. Kafedra fiziki meditsinskogo fakul'teta Karlova universiteta,
Gradets Kralove, Chekhoslovakiya.
(Hradec Králové--Radioactive fallout)

NOSEK, J., SANTHOLZER, V.

Sr⁹⁰ content of milk of various areas of Czechoslovakia from 1957-
1959 '60. (MIRA 13:12)
(STRONTIUM—ISOTOPES) (CZECHOSLOVAKIA—MILK—ANALYSIS)

26848

Z/038/61/000/004/003/005

D238/D305

21.7200

also 2406,2606

AUTHORS:

Santholzer, Vilém, Macků Jiří, Havlovič, Vratislav, and Podzimek, Josef

TITLE:

Additional evidence of an increase in radioactive fallout as a result of French nuclear tests in 1960

PERIODICAL:

Jaderná energie, no. 4, 1961, 122 - 129

TEXT:

Following the French nuclear tests in February and March 1960, the katedra fyziky lékařské fakulty Karlovy university (Department of Physics, Medical Section, Charles University) in Hradec Králové and the fyzikální ústav lékařské fakulty Karlovy university (Physical Institute, Medical Department, Charles University) in Plzeň determined an increase in fallout, especially that of rain precipitations. Similar results were also obtained by Rumanian physicists V. Mageru, D. Blanariu and J. Gabe (Ref 4: Frische Kernspaltprodukte in der Atmosphäre (Fresh Nuclear-Fission Products in the Atmosphere), Naturwiss. 47, 1960, 319). For fallout-activity measurements, the Department of Physics in Hradec Králové used an automatic device of its own de-

Card 1/5

26848

Z/038/61/000/004/003/005

D238/D305

Additional evidence of an increase ...

sign. It consists of an automatic sample and filter changer with a GM tube; a control unit; a programming unit; a timing unit; a printer; and a power supply with protective and control circuits. The magazine of the sample changer accomodates up to ten samples. During measurements, one place in the magazine was left empty for background determination, and one place was occupied by a Sr-90+Y-90 reference standard. Fallout samples obtained in the period following the French nuclear tests had densities ranging from 37 to 104 mg/cm². According to F. Běhounek and V. Zelenková (Ref 8: Stanovení radioaktivity beta kapalných odpadů (Determination of Beta Radioactivity in Waste Waters), Jaderná energie, 6, 1960, 9, 299), the correction for self-absorption at first increases proportionally with the increasing density up to about 30 mg/cm². With further density increases the self-absorption increment decreases so that at a density of 200 mg/cm² the measured fallout activity virtually represents about 58% of the actual activity, while for a density of 20 mg/cm² it is about 90%. This provided an approach for calculating the self-absorption correction. The same paper also suggested another cross-checking method when measuring fallout samples with large densities. It utilizes the so-called energetic of filtration factor F which is defined as the

Card 2/5

26848

Z/038/61/000/004/003/005
D238/D305

Additional evidence of an increase ...

ratio of the pulse count obtained with a 0.1 mm thick Cu filter (N_{Cu}) to that obtained with a 0.1 mm thick Al filter (N_{Al}), i.e. $F = N_{Cu}/N_{Al}$. The filtration factor depends on the average maximum energy E_{max} of beta radiation emanating from the sample. Therefore, triple measurements were made: One without filter (N pulses/min); one with a Cu filter (N_{Cu} pulses/min); and one with an Al filter (N_{Al} pulses/min). Activity values obtained by this method differed from those obtained by absorption measurements using a Sr-90+Y-90 reference standard by 32% at the most. This is considered a good performance especially since the Sr-90+Y-90 standard is not an ideal one, particularly when older samples are concerned. This is because the self-absorption coefficient is different for samples of different age as was shown by J. Rádková (Ref 9: Měření radioactivity ve vodách (Radioactivity Measurements in water), Jaderná energie 6, 1960, 3, 89). The Physical Institute, Medical Department, Charles University in Plzeň used a radiographical method permitting microscopic investigation of the activity distribution on dust particles. A sticking glass plate 18x24 cm, of their own production was exposed for 14-21 days to the effect of sedimentation of both dry and liquid fallout. The plate was then stored for 3 days in a dustless environment to let the side products of radon and thoron

Card 3/5

26848

Z/038/61/000/004/003/005
D238/D305

Additional evidence of an increase ...

decay. Then it was covered with a 0.18 mm thick celon foil and tightly pressed onto an X-ray film (Agfa-Laue-Film). The film was then developed in a hard X-ray-type developer. The results of the absorption measurements, and especially those of the double-filter measurements show that the fallout samples at the end of 1960 emit beta radiation of a higher average maximum energy than the fresh ones. Activity increase could also be proved by the method of sticking plates. The decrease in fallout activity with time was studied on three samples during ten months using automatic measuring equipment. The activity decrease is best expressed by the formula $A=a.t^{-n}$, where $n=1.2 - 1.4$. The first half-times of different fallout samples range from 9 to 18 days so that they also can be tracked down to the dates of the French nuclear tests on February 13 and April 1, 1960. Appreciation is extended to Academician František Běhounek. There are 11 figures and 14 references: 10 Soviet-bloc and 4 non-Soviet-bloc. The references to the four most recent English-language publications read as follows: T. Hvinden, D.Hveding, A. Lillegraven, S.H. Small, Fall-out over Norway from high-yield nuclear explosions, Nature 186, 1960, 805; R.L. Patterson, L.B. Lockhart, Long-range detection of French nuclear tests of 1960, Science 132, 1960, 474; W. Anderson, R.E. Bentley, L.K. Burton, C.A. Greatorax, Detection of recently produced fission products in the

Card 4/5

26848

Z/038/61/000/004,003/005

D238/D305

Additional evidence of an increase ...

atmosphere, Nature 186, 1960, 223; W. Anderson, R.E. Bentley, L.A. Burton,
J.O. Crookall, C.A. Grotorex, Radioactive fallout during 1959, Nature 186,
1960, 925.

ASSOCIATION: Katedra fyziky lékařské fakulty Karlovy university, Hradec
Králové (Department of Physics, Medical Section, Charles Uni-
versity Hradec Králové) (V. Santholzer, J. Macků, V. Havlovič)
Geofyzikální ústav ČSAV, Hradec Králové (Geophysical Insti-
tute, Czechoslovak AS, Hradec Králové) (J. Podzimek)

Card 5/5

27.2400

30595
Z/037/61/000/006/001/004
E024/E135

21.7200

AUTHOR:

Santholzer, V.

TITLE:

The significance of the first half-time of atmospheric fall-out

PERIODICAL: Československý časopis pro fysiku, no.6, 1961, 469-475

TEXT: The paper describes an additional method for the determination of the age of fall-out samples. The method is simple but rather time-consuming. Some samples of fall-out are sufficiently radioactive to make the measurement of their activity possible over a period of several months or even years. Such strongly active samples may be considered as isolated, i.e. their activity is independent of the remanent background activity from earlier nuclear explosions. A sample is considered by the author as isolated if it obeys the relation:

$$A = kt^{-n} = k(T - T_0)^{-n} \tag{1}$$

A is the β -activity, k is a constant, and $(T - T_0)$ is the

Card 1/3

X

30595
Z/037/61/000/006/001/004
E024/E135

The significance of the first

time elapsed since the nuclear test. The exponent n equals 1.2 for fresh samples; for older samples $n = 1.5-1.7$. There is considerable uncertainty as to the accurate value of n . If T_1 is the date of the first measurement of the radioactivity of a sample and T_2 is the date on which its activity has fallen to half its original value, we obtain the half-life:

$$\tau = T_2 - T_1 = (\sqrt[n]{2} - 1)(T_1 - T_0) = c(T_1 - T_0)$$

In general, we obtain

$$\tau = c(T - T_0) \tag{2}$$

The plot of successive measurements of half-lifetimes of a sample against time, yields a straight line which intersects the time-axis at T_0 , i.e. the date of origin of the sample. This procedure is valid as long as the activity of the sample is predominantly due to a single explosion and the background activity can be neglected. Such plots for samples originating from recent French nuclear tests demonstrate the feasibility of

Card 2/3

λ

The significance of the first half-time... 30595
Z/037/61/000/006/001/004
E024/E135

the method. Some evidence was obtained that a radioactive cloud can pass more than once over the same geographical point.

Acknowledgments are expressed to Academician F. Běhounek.

There are 3 figures and 7 references; 2 Soviet-bloc and 5 non-Soviet-bloc. The English language references read as follows:

Ref.4: W. Anderson, R.E. Bentley, L.K. Burton, J.O. Crookall, C.A. Greatorex. Nature, Vol.186 (1960), 925.

Ref.5: D.H. Peirson, R.N. Crooks, E.M.R. Fisher. Nature, Vol.186 (1960), 224.

Ref.6: Akpinar Sait: Nucleonics, Vol.15 (1957), 88.

ASSOCIATION: Katedra fyziky lékařské fakulty Karlovy university, Hradec Králové
(Department of Physics, Charles University Faculty of Medicine, Hradec Králové)

SUBMITTED: April 12, 1961

Card 3/3

X

SANTHOLZER, Vilem, prof. RNDr.

Results of 3-year measurement of nuclear fallout. Sborn. ved. prac.
lek. fak. Karlov. univ. (Hrad Kral) (Suppl) 5 no.2/3:205-214 '62.

(RADIOACTIVE FALLOUT)

27.2400

21.7200

AUTHOR:

TITLE:

Santholzer, V.

30596
Z/037/61/000/006/002/004
E024/E135

PERIODICAL: Československý časopis pro fysiku, no.6, 1961, 476-479

TEXT: The paper presents data on the radioactivity of atmospheric fall-out collected between November 1 1958, the date of the pause in nuclear tests, and May 1961, the date of submission of the paper. The mean activity of the samples began to decrease in the spring of 1959 and by the end of 1959 had reached, at the author's collecting station, 0.03 mc/km²/day. This mean value increased temporarily in March 1960, due to the French nuclear tests, to 1.93 mc/km². By the end of 1960 the activity had decreased to 0.02 mc/km², and remained at that level up to the time of writing. The third French explosion did not lead to an increase in the mean daily activity; however, the difference between the sum of the daily activities and the activity of a sample collected over the period of a month became unusually large, i.e. the monthly sample was 50% below the sum of

X

Card 1/3

30596

Z/037/61/000/006/002/004
E024/E135

Results of atmospheric fall-out

the daily samples in January and February, 1961. This is evidence for the presence of fresh fall-out. The amount of Sr⁹⁰ at the beginning of 1960 was 10-12 c/l of rain, which is about ten times less than it was a year earlier. The author considers that the atmospheric fall-out reaching the earth at the time of writing originated in the stratosphere, which was contaminated by earlier megaton explosions. The permanent cessation of nuclear tests would reduce fall-out to the insignificant level of 10⁻³ mc/km²/day within a few years. Acknowledgments are expressed to Academician F. Běhounek, V.P. Shvedov and L.I. Gedeonov are mentioned in connection with their work on nuclear tests. There are 1 table and 3 references: 2 Soviet-bloc and the following English language references:
Ref. 2: J. Hvinden, D. Hveding, A. Lillegraven, S.H. Small.
Nature, Vol.185 (1960), 805:
W. Anderson, R.E. Bentley, L.K. Burton, C.A. Greatorax.
Nature, Vol.186 (1960), 223.

Card 2/3

X

Results of atmospheric fall-out 30596
Z/037/61/000/006/002/004
E024/E135

ASSOCIATION: Katedra fyziky lékařské fakulty Karlovy university
v Hradci Králové
(Department of Physics, Charles University, Faculty
of Medicine, Hradec Králové)

SUBMITTED: May 10, 1961

Card 3/3

X

S/081/62/000/012/013/063
B168/B101

AUTHOR: Santholzer, V.

TITLE: The half-life of radioactive fallout

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 135, abstract
12G162 (Českosl. časop. fys., v. A11, no. 6, 1961, 469 - 475)

TEXT: A study of changes in the activity of 56 samples of radioactive fallout, taken during 1957 - 1960, showed that the half-life of a mixture of fission fragments in the samples is expressed as a linear function of time elapsed from the moment of their formation. This value varies with the age of the fragments within the range 9-200 days.. The results of investigations on determination of the age of the fragments agreed well with the date pattern of nuclear tests and indicated that the radioactive cloud which forms at the time of any one test may pass over the observation station at least twice. [Abstracter's note: Complete translation.]

Card 1/1

S/081/62/000/012/014/063
B168/B101

AUTHOR: Santholzer, V.

TITLE: Results of measurements of radioactive fallout levels three years after suspension of nuclear tests

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 135, abstract 12G163 (Českosl. časop. fys., v. A11, no. 6, 1961, 476 - 479)

TEXT: Measurements of radioactive fallout levels showed that following suspension of nuclear tests in the fall of 1958 the fallout activity began to drop steeply. By the end of 1959 the average fallout per 24 hours was 0.03 m_{cu}/km². After a slight increase to 1.93 m_{cu}/km² in March 1960 (French tests in the Sahara) the fallout levels again fell, and by late 1960 and early 1961 had reached a value of 0.02 m_{cu}/km² per 24 hours. The quantities of radioactivity which accumulated during the 1st year (up to Oct. 31, 1959) and the 2nd year (up to Oct. 31, 1960) following suspension of tests and also during the period Nov. 1, 1960 to Apr. 30, 1961 were 104, 14, and 2 m_{cu}/km², respectively. The proportion of fallout from the Card 1/2

Results of measurements of

S/081/62/000/012/014/063
B168/B101

French tests of 1960 was 28 %. [Abstracter's note: Complete translation]

Card 2/2

HAVLOVIC, Vratislav; SANTHOLZER, Vilem; MACKU, Jiri

Gamma spectrometry of the atmospheric fallout. *Jaderna energie*
8 no.7:235-239 JI '62.

1. Katedra fyziky lekarske fakulty Karlovy university,
Hradec Kralove.

CZECHOSLOVAKIA

SANTHOLZER, V., Prof. Dr.

Chair of Medical Physics of the Medical Faculty of
Charles University (Katedra lekarske fyziky lekarske
fakulty KU), Hradec Kralove

Prague, Prakticky lekar, No 2, 1963, pp 73-76

"Artificial Radioactivity Produced as a Result of
Nuclear Particles."

SANTHOLZER, V.

Progress of the hot particle study. Jaderna energie 9
no. 4:131 Ap '63.

SANTHOLZER, Vilem; HAVLOVIC, Vratislav

Increase of the radioactive fallout in spring 1962 and the mechanism of fission product distribution in the atmosphere. Jaderna energie 8 no.12:422-426 '62.

1. Katedra fyziky, Lekarska fakulta Karlovy university, Hradec Kralove.

SANTHOLZER, Vilem

Nuclear fallout after the megaton nuclear tests in the years
1961-1963. Jaderna energie 9 no.10:310-314 0 '63.

1. Katedra fyziky, lekarska fakulta Karlovy university,
Hradec Kralove.

SANTHOLZER, V.

Correction factor for self-absorption of flat beta emitters.
Chekhosl fiz zhurnal 13 no.11:822-826 '63.

1. Katedra fyziky lekarske fakulty Karlovy university, Hradec Kralove.

SANTHOLZER, Vilem

Fallout during the period of the atmospheric nuclear test
ban. Jaderna energie 10 no.1:11-13 Ja'64.

1. Katedra fyziky lebarske fakulty Karlovy university, Hradec
Kralove.

SANTHOLZER, Vilem

Dynamics of the transportation of fission products by atmospheric precipitations. Jaderna energie 10 no.7:251-253 J1'64

1. Chair of Physics of the Faculty of Medicine, Charles University, Hradec Kralove.

SANTHOLZER, Vilem

Results of the measurement of atmospheric fallout in the years
1962-1963 after the megaton tests. Cs cas fys 14 no. 1: 1-4
'64.

1. Katedra fyziky lekarske fakulty Karlovy university, Hradec
Kralove.

SANTHOLZER, Vilem; HAVLOVIC, Vratislav; MACKU, Jiri; PODZIMEK, Josef

Results of the long-term measurement of atmospheric fallout and the problem of seasonal variations. Sborn.ved.prac.lek.fak.Karlovy.univ. (Hrad.Kral) 6 no.1:Suppl.:119-134 '63.

1. Katedra fyziky Lekarske fakulty Karlovy University v Hradci Kralove; prednosta prof. RNDr. V. Santholzer Geofyzikalni ustav CSAV; prednosta CSc. RNDr. J. Podzimek.

*

SANTHOLZE, Vilem, prof. RNDr., DrSc.

Radioactive fallout after the cessation of experimental explosions
in the atmosphere. Sborn. ved. prac. lek. fak. Karlov. Univ. 7
no.4:549-555 '64.

1. Prednosta katedry lekarske fyziky Lekarske fakulty Karlovy
university z Hradci Kralove.

SANTHOLZER, Vilem, prof. RNDr., DrSc.; NERUDA, Otakar; KNAIFL, Josef.

Radioisotopes in nuclear fallout from megaton tests. Sborn.
ved. prac. lek. fak. Karlov. Univ. 9 no.1:169-173 '64.

1. Katedra lekarske fyziky (prednosta: prof. RNDr. V. Santholzer,
DrSc.); Katedra radiobiologie (prednosta: doc. MUDr. J. Mraz,
CSc.) Karlovy University v Hradci Kralove.

L 48291.45 EW.(j),EAT(m)/EHA(h)

ACCESSION NR: AP501358

CZ/0038/65/001/002/0047/0051

AUTHOR: Santholzer, Vilém (Santgol'zer, V.); Havlovic, Vratislav (Havlovic, V.); 16
Stransky, Právošlav (Stranskiy, P.); Neruda, Otakar; Knafl, Josef (Knayfl', I.) 14

TITLE: Gamma spectra of the atmospheric fallout and age indexes after the
cessation of nuclear tests B

SOURCE: Jaderna energie, no. 2, 1965, 47-51

TOPIC TAGS: gamma ray, gamma spectroscopy, atmospheric property, radioactive
fallout, managanese, strontium, isotope

ABSTRACT: Samples of atmospheric fallout in the years 1963 and 1964, in the period
after the cessation of nuclear tests, were analyzed spectrometrically. The
quantities of the individual nuclides in the mixture were determined from the
spectra by absolute evaluation using comparative preparations and standards. ⁵⁴Mn
was determined along with fission products with long half lives. At the same time,
⁹⁰Sr was determined radiochemically. In this way it was possible to make use of
several age indexes and to determine approximately the age of stratospheric fallout
from their half lives. Orig. art. has: 6 graphs, 5 formulas.

Card 1/2

L 48291-65

ACCESSION NR: AP5013583

ASSOCIATION: Katedra fyziky lekarske fakulty Karlovy university, Hradec Kralove
(Department of Physics, Medical Faculty, Charles University); Katedra radiobiologie
Vojenskeho lekarskeho vyzkumneho a doskolovaciho ustavu Jana Ev. Purkyne.
Hradec Kralove (Department of Radiobiologie, Military Medical Research and Training
Institute Jana Ev. Purkyne)

SUBMITTED: 00

ENCL: 00

SUB CODE: NP, OP

NR REF SOV: 001

OTHER: 018

NA

Card 2/2

SANTHOLZER, Vilém; HAVLOVIC, Vratislav; STRANSKY, Pravoslav

Models of the atmospheric fallout on the earth. Cs cas fys
15 no.3:193-202 65.

1. Chair of Physics of the Faculty of Medicine of Charles
University, Hradec Kralove. Submitted June 25, 1964.

L 00091-66 EWA(h)
ACCESSION NR: AP5025522

CZ/0038/65/000/003/0102/0103

AUTHOR: Havlovic, Vratislav; Santholzer, Vilem

H
B

TITLE: An apparatus for the collection of samples of aerosols on membrane filters

SOURCE: JADERNA energie, no. 3, 1965, 102-103

TOPIC TAGS: radioactive fallout, industrial filter, aerosol chemistry

ABSTRACT: The apparatus uses a membrane filter with a pore size 1.2μ . Curves are given showing flow rate and pressure drop as a function of time. Results of collections of activity from June 1963 through June 1964 are shown. These data were used to calculate the rate of dry deposition of activity, V, and a cleansing factor, W, based on the activity in rain water. During the course of the period tested, V fell from 0.6 cm/sec to 0.4 cm/sec while the factor W was of the order of 1000 to 2000. These figures are given as examples of the way in which such equipment can be used to predict the long-term nuclear fallout on the earth's surface. Orig. art. has 1 figure and 2 graphs. 19, 65

ASSOCIATION: Katedra fyziky lekárske fakulty Karlovy university, Hradec Kralove
(Department of Physics, Medical Faculty, Charles University)

SUBMITTED: 00
NO REF SOV: 000

ENCL: 00
OTHER: 006

SUB CODE: NP, GC
NA

Card 1/1

SANTHOLZER, Vilem

Radioactivity in our vital environment. (Status after the conclusion of the Moscow treaty). Sborn. ved. prac. lek. fak. Karlov. Univ. 8 no.3:395-399 ' 65.

1. Katedra lekarske fyziky (prednosta: prof. RNDr. V. Santholzer, DrSc.), Karlovy University v Hradci Kralove.

L 8192-66 ENT(m)/EWA(h)

ACCESSION NR: AP5018472

CZ/0055/65/015/007/0506/0512

AUTHOR: Santholzer, V.

TITLE: Results of measurements and analysis of nuclear fallout up to the beginning of 1965

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 15, no. 7, 1965, 506-512

TOPIC TAGS: radioactive fallout, atmospheric contamination, stratosphere, radio strontium

ABSTRACT: The author has been making since April 1964 a systematic interpretation of γ -ray scintillation spectra of the activity at ground level air and dry fallout and rain. The results showed further decrease of activity throughout 1964. The β activity decreased to several tenths of a mc/km^2 . From April to August, an increase in the activity was again observed, due to the fall of radioactive dust from the stratosphere to the troposphere as a consequence of meteorological factors. The seasonal variation was not so pronounced in 1964 as in 1963, when the activity increased in May and June six to seven times over February and March. In 1964 the springtime increase in activity was approximately three times. The Chinese atomic bomb test in October 1964 had no marked effect at the Czechoslovak Station. The idea that there exists a stratospheric reservoir of artificial radioactivity, re-

Card 1/2

0902 0180

L 8192-66

ACCESSION NR: AP5018472

sulting from the nuclear tests, was thus confirmed once more, as was the existence of a certain residence time of radioactive dust in the stratosphere, since no nuclear explosions were performed in 1963. The mean residence time was calculated from the decrease in the strontium 90, separated by radio chemical analysis at the Radiobiological Institute of the Military Medical, Research and Postgraduate Institute of Jan E. Purkyne in Hradec Kralove. The mean value of the residence time is 1.6 years, indicating a reservoir in the higher stratosphere. The data are compared with those measured in other countries. "The author thanks Academician F. Behounek for continuous interest in the measurements and for supplying the Sr 90 compounds. He also thanks Doctor P. Stransky, a lecturer at the Physics Department for help with the measurements." Orig. art. has: 3 figures and 1 table.

ASSOCIATION: Medical Faculty, Charles University, Hradec Kralove, Czechoslovakia

SUBMITTED: 08Mar65

ENCL: 00

SUB CODE: CB, NP

NR REF SOV: 001

OTHER: 025

nw
Card 2/2

L 30923-66 EWT(m)

ACC NR: AP6022922

SOURCE CODE: CZ/0038/66/000/001/0028/0030

AUTHOR: Santholzer, V.

ORG: none

TITLE: New fission products resulting from Chinese atomic explosions

SOURCE: Jaderna energie, no. 1, 1966, 28-30

TOPIC TAGS: nuclear explosion, fission product, radioactive fallout, beta radiation, gamma radiation

ABSTRACT: After the first Chinese atomic explosion in the fall of 1964 the increase of the gamma spectrum fall-out in Czechoslovakia was rather small; an increase in Zr⁹⁵ and Nb⁹⁵ was, however, observed. The second Chinese explosion occurred in mid-May 65. Two weeks later an increase in the beta fall-out occurred, with a maximum activity of 1.5 nCi/day from a collector with an area of 1 square meter. Comparison with samples of Sr⁹⁰+Y⁹⁰ was used for the evaluation of the fall-out, although Tl²⁰⁴ would have been more suitable. The use of K⁴⁰ is discussed; it was not suitable because of its low beta radiation. Orig. art. has: 3 figures. [JPRS]

SUB CODE: 18 / SUBM DATE: none / ORIG REF: 009 / OTH REF: 003

Card 1/1 CC

UDC: 621.039:614.7(437)

39
B

19

0915 / 0998

L 37013-66

ACC NR: AP6027045

SOURCE CODE: CZ/0038/66/000/004/0143/0145

AUTHOR: Santholzer, V.ORG: Department of Physics, Medical Faculty, Charles University, Hradec Kralove ³⁶
(Katedra fyziky lekarske fakulty Karlovy university) ^B

TITLE: Quantitative determination of radionuclides using gamma spectra

SOURCE: Jaderna energie, no. 4, 1966, 143-145 ¹⁹

TOPIC TAGS: gamma spectrum, spectrum analysis, beta radiation

ABSTRACT: Literature (26 references) on the determination of radionuclides from their gamma spectra is reviewed. The individual nuclides may often be determined by a combination of radiochemical separation and identification of the gamma spectra. The simplest method for determining an element from its gamma spectrum depends on finding the area under the photopeak, taking as the base of the area the abscissal distance between the "valleys" on either side of the peak. The number of curies of the nuclide present can then be calculated from a formula. This value may be converted to the absolute beta activity by a conversion coefficient. In a mixture of radionuclides, each may be determined individually by calculation from the gamma spectra. In the subtraction method the spectrum is analyzed differentially. By the graphic method, on log-log paper, two nuclides, e.g., ¹³⁴Cs and ¹³⁷Cs, may be determined individually; three may also be determined. The effect of beta radiation on measurements made with a well counter is shown in a Fermi-Curie plot. Orig. art. has: 4 figures. [NA]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 004 / SOV REF: 003
OTH REF: 019Card 1/1 *ma*

UDC: 543.53: 539.166.3

0917

0033

ACC NR: AP7002523

SOURCE CODE: CZ/0038/66/000/005/0171/0173

AUTHOR: Santolizer, VilcaORG: Department of Physics, Medical Faculty, Charles University, Hradec Karlove
(katedra fyziky lekarske fakulty Karlovy university)

TITLE: Simple method for determining the activity of two mixed gamma-ray emitters

SOURCE: Jaderna energie, no. 5, 1966, 171-173

TOPIC TAGS: gamma ray, gamma spectrum

ABSTRACT: A graphic method suitable for relatively prompt determination of the activity of separate radionuclides in a mixture of two or three radionuclides, gamma energies of which are sufficiently different, is described. This graphic method is based on the integral spectrum and therefore has better statistics. The method is suitable for weak activities of the order of nC, and necessitates suitable standard preparations of those radionuclides to be measured. For our experiments a mixture of ^{54}Mn + ^{137}Cs with activities of 5.27 and 4.14 nC. Orig. art. has: 1 figure, 2 formulas and 1 table. [NA]

SUB CODE: 18 / SUBM DATE: 15Jul65 / SOV REF: 002 / OTH REF: 004

Card 1/1

UDC: 539.12.082: 539.166.3: 546.36.02: 546.711.02

SANTHOLZER, VILÉM

Distr: 4E2a 19

✓ Increase in fallout radioactivity as a result of nuclear tests in the Sahara. Vilém Santholzer (Karlova Univ., Hradec Králové, Czech.). *Jadrová energie* 6, 294-8 (1960).—The 1st French nuclear test on Feb. 13, 1960, caused an increase in radioactive fallout in Hradec Králové, Czech., between March 1 and 20, 1960, to 17.65 mc./sq. km.-day, which is ~600 times the "normal" level due to stratospheric fallout from older tests. The 2nd French test on March 1, 1960, caused an increase between April 8 and 18, 1960, to 0.70 mc./sq. km.-day. From the decay of the activity with time, the dates of origin of the fission products were detd. and found to agree with the dates of the French tests. The dependence of total activity A on time t was $A = at^{-s}$, where a is a const. and s is between 1.2 and 1.4.

3
1

GK

ZERNICKI, B.; SANTIBANEZ-H, G.

The effects of ablations of alimentary area of the cerebral cortex on salivary conditioned reflexes in dogs. Acta biol exper 21:163-176 '61.

1. Department of Neurophysiology, Nencki Institute of Experimental Biology, Warsaw.

(DOGS) (BRAIN)

SANTIBANEZ, G.; TARNECKI, R.; ZERNICKI, B.

Correlation between the effect of hypothalamic stimulation on EEG and on pupil dilatation in the preparation cerveau isole and pretrigeminal in cats. Acta physiol.polon.11 no.5/6:881-882 '60.

1. Z Zakladu Neurofizjologii Inst.Biol.Dosw. im. M.Nenckiego
Kierownik: prof.dr J.Konorski.
(HYPOTHALAMUS physiol)
(PUPIL physiol)
(BRAIN physiol)

SANTIBANEZ, G.; TARNECKI, R.; ZERNICKI, B.; KONORSKI, J.

Cortical representation of the chorda tympani in dogs. Acta physiol.
polon. 11 no.5/6:882-883 '60.

1. Z Zakladu Neurofizjologii Inst.Biol.Dosw. im. M.Nenckiego
Kierownik: prof.dr J.Konorski.
(CEREBRAL CORTEX anat & histol)
(PONS anat & histol)

ZERNICKI, B.; SANTIBANEZ, G.

Effect of bilateral extirpation of the gyrus compositus anterior
on conditioned and unconditioned food and acid reflexes in dogs.
Acta physiol.polon. 11 no 5/6:934-935 '60.

1. Z Zakladu Neurofizjologii Inst.Biol.Dosw. im. M.Nenckiego
Kierownik: prof.dr J.Konorski.

(REFLEX)

(REFLEX CONDITIONED)

(BRAIN physiol)

SANTIC, Ante, inz. (Zagreb, Sirolina 7)

Limits in obtaining high voltage from battery source up to 40 v.
Elektrotehnika Hrv 5 no.4:133-145 '62.

1. Institut za elektroprivredu.

lit
Elekt

SANTICA, Boris

Cooperation within enterprises or among their independent or economic units. Produktivnost 3 no.7/8:480-482 Ag '61.

1. Nacelnik BUP-a u Preduzecu "Tito", Sarajevo.

ZERNICKI, B.; SANTIBANEZ, H.

The effects of ablations of "alimentary area" of the cerebral cortex on salivary conditioned and unconditioned reflexes in dogs. Acta Biol Exp 21:163-176 '61.

1. Department of Neurophysiology Nencki Institute of Experimental Biology, Warsaw.

(CEREBRAL CORTEX physiol)
(REFLEX)

(REFLEX CONDITIONED)

SANTNER, J.

SANTNER, J.; HROMADKA, H. "New method for mining large brown-coal seams; vertical chambering with packing for full-seam capacity."

Uhli, Praha, Vol 4, No 2, Feb. 1954, p. 43

SO: Eastern European Accessions List, Vol 3, No 10, Oct 1954, Lib. of Congress

SANTO, G.

Contributions to reducing the volume of work necessary for the elaboration of the plan of organizing construction work. p. 9.
(INDUSTRIA CONSTRUCTIILOR SI A MATERIALEOR DE CONSTRUCTII. ROMANIA. Vol. 7, no. 1, Jan. 1956.)

SO: Monthly List of East European Accessions (SEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

SANTO, G.

Typical plans for provisional constructions in building yards and their meaning in planning the organization of building yards.

p. 393 (Industria Constructiilor Si A Materialelor De Constructii. Vol. (7) no. 7, 1956. Bucuresti, Rumania)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2, February 1958

SANTO, I.:

SANTO, I.: "The synthesis of spatial polymers bases on polyvinyl acetate and polyvinyl alcohol and their characteristic properties."
Min Higher Education USSR, Leningrad Order of Labor Red Banner Technological Inst imeni Leningrad Soviet. Chair of Plastics Technology. Leningrad, 1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN CHEMICAL SCIENCE)

So.: Knizhnaya letopis' No 15, 1956, Moscow