LYUBIMOV, N.N., doktor ekon. nauk, prof.; FOKIN, D.F., kand. ekon. nauk; SHEREZHEVSKIY, M.G., doktor ekon.nauk, prof.; PISKOPPEL, F.G., doktor ekon. nauk, prof.; DYUMULEN, I.I., kand. ekon. nauk; LOPATIN, G.S., doktor ekon. nauk, prof.; MOGILEVCHIK, A.Ye., red.

[Foreign trade of the U.S.S.R., 1946-1963] Vneshniaia torgovlia SSSR (1946-1963 gg.). Pod red. D.F.Fokina. Moskva, IMO, 1964. 189 p. (MIRA 17:6)

1. Moscow. Institut mezhdunarodnykh otnosheniy. 2. Kafedra mezhdunarodnykh ekonomicheskikh otnosheniy Moskovskogo gosudarstvennogo instituta mezhdunarodnykh otnosheniy(for all except Mogilevchik).

LOPATIN, G.S.; PLAKSIN, I.N.

Extraction of gold, platinum and palladium by isoamyl alcchol.
Izv. vys. ucheb. zav.; tsvet. met. 4 no.4:87-90 '61.(MIRA 14:8)

1. Krasnoyarskiy institut tsvetnykh metallov, kafedra metallurgii blagorodnykh metallov.
(Precious metals--Metallurgy)
(Isopentyl alcohol)

KOLPAKOV, L.G.; SAFRONOV, V.Ya.; LOPATIN, G.K.; FEDOROV, T.A.; YEREMIN, V.I.

Possibility of using glandless pumps for pipelines. Trudy NIITransneft' no.3:107-113 '64. (MIRA 18:2)

LOPATIN, G. V.

Analytical Study of Methods of Sampling Suspended Sediment, Report No 3 from the series, "Investigation of Methods of Determining the Run-off of Sediments", 1941.

SO: U-3039, 11 Mar 1953

LOPATIN, G. V.

Verbatim: - " 'Bulgunnyakhs' in the Lena River delta," Problemy arktiki, 1948 (Published in 1949), No. 3, p. 118-28, - Bibliog: 21 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

LeBLOIN S. V.

"Solid Run-off of the Rivers in the Basin of the Caspian Sea", Trudy VNII, No 4 (82), 1968 (78-95)

SO: U-3619, 11 Mar 1973

LOPATIN, G. V.

28285

K-70-Lyetnyu nikhaila andreyeve viela [illegible] (Gidrolog). [illegible]
[illegible] soyuz. Gyeogr. [illegible], [illegible]. 8, S. [illegible]-15

SO: LETOPIS NO. 34

APPROVED FOR RELEASE: Monday, July 31, 2000 CIA-RDP86-00513R000930510(

L[illegible], G. V.

28[illegible]

Eroziya i stok nanosov v evro[illegible] [illegible] SSSR i [illegible] [illegible] izvyestiya vs[illegible]. [illegible] [illegible] 194[illegible] [illegible] 5, s. [illegible]3-[illegible] - [illegible]: 1[illegible] nazv

SO: L[illegible]IS [illegible]O. 34

LOPATIN, G. V.

LOPATIN. G.V.

Role of river depositions in Aral Sea sedimentation. Trudy Lab. ozeroved. 1:12-27 '50. (MLRA 7:7)
(Aral Sea--Sedimentation and deposition) (Sedimentation and deposition--Aral Sea)

[illegible], G. V.

Rivers

Turbid zones of rivers of the U.S.S.R. Ver. Geog., 26, 1951.

9. Monthly List of Russian Accessions, Library of Congress, April 1952, Uncl.

LOPATIN, G.V.

[Alluvia of the rivers of the U.S.S.R.; formation and movement] Nanosy rek SSSR; obrazovanie i perenos. Moskva, Gos.izd-vo geogr.lit-ry, 1952. 366 p.
(MLRA 6:7)
(Alluvium)

1. LOPATIN, G. V.
2. USSR (600)
4. Geography & Geology
7. Alluvial deposits in rivers of the U.S.S.R. Moskva, Geografgiz, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953. Unclassified.

LOPATIN, Goergi Vladimirovich

Laboratory of Lake Science Acad Sci USSR, Academic degree of Doctor of Geographical Sciences, based on his defense, 29 November 1954, in the Council of the Leningrad Order of Lenin State U imeni Zhdanov, of his dissertation entitled: "Alluvium of Rivers of USSR".

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 9, 16 April 55, Byulleten' MVO SSSR, No. 14, Jul 56, Moscow, pp 4-22, Uncl. JPRS/NY-429

LOPATIN, G.V., kandidat tekhnicheskikh nauk.

Formula for calculating the discharge of alluvium carried by lowland streams. Gidr.stroi.23 no.1:43-44 '54. (MLRA 7:2)
(Stream measurements) (Silt)

LOPATIN, G.V.

Long-term fluctuation of the Baikal Lake level. Dokl.AN SSSR 94 no.6:1041-1043 F '54. (MLRA 7:2)
(Baikal, Lake)

LOPATIN, G.V.

Zones of turbidity of rivers in Siberia and the Far East. Izv.Vses. geog.ob-va 87 no.1:23-30 Ja-F '55. (MIRA 8:4)
(Siberia--Runoff) (Soviet Far East--Runoff)

LOPATIN, G.V.

3(4,5)

PHASE I BOOK EXPLOITATION SOV/1655

Akademiya nauk SSSR. Komitet po geodezii i geofizike.

Tezisy dokladov na XI General'noy assambleye Mezhdunarodnogo geodezicheskogo i geofizicheskogo soyuza. Mezhdunarodnaya assotsiatsiya nauchnoy gidrologii (Abstracts of Reports Submitted to the 11th General Assembly of the International Union of Geodesy and Geophysics. The International Association of Scientific Hydrology) Moscow, 1957. 101 p. /Parallel texts in Russian and English or French/ 1,500 copies printed.

No additional contributors mentioned

PURPOSE: This booklet is intended for hydrologists and civil engineers.

COVERAGE: This collection of abstracts covers reports presented at the 11th General Assembly of the International Union of Geodesy and Geophysics on hydrological, erosional, and glaciological processes. Studies related to problems of underground waters, snow, and rivers are also discussed. The abstracts are in Russian, with English or French translations. Those appearing in English are designated by a single asterisk; those in French by two. There are no references given.

Card 1/4

Abstracts of Reports (Cont.)

TABLE OF CONTENTS:

Abstracts of Reports (Cont.)

AVAILABLE: Library of Congress (GB653.A37)

Card 4/4

MM/gmp
5-21-59

LOPATIN, G.V.

The structure of the Amu Darya Delta and the history of its formation. (MLRA 10:9)
Trudy Lab.ozeroved. 4:5-34 '57.
(Amu Darya Delta--Physical geography)

LOPATIN, G.V.

Conference on silted small reservoirs of plain areas in the U.S.S.R. (MIRA 11:1)
Izv. AN SSSR. Ser. geog. no.4:137-138 Jl-Ag '57.
(Silt) (Reservoirs)

LOPATIN, G.V.

Hydrological data on the Amu Darya Delta. Trudy Lab.ozeroved. (MIRA 10:3)
4:192-268 '57.
(Amu Darya Delta--Hydrology)

LOPATIN, G.V.

Data for the study of erosion processes and conditions of silting of lakes and reservoirs. Trudy Lab. ozeroved. 5:138-173 '57. (MLRA 10:9)
(Sedimentation and deposition)
(Lakes) (Reservoirs)

LOPATIN, G.V.

Fluctuations of the water level of Lake Baikal during a period of many years. Trudy Baik. limnol. sta. 15:5-31 '57. (MLRA 10:8)
(Baikal, Lake--Hydrology)

LOPATIN, G.V.

Inflow of surface waters into Lake Baikal. Trudy Baik. limnol. sta. 15:32-57 '57. (MLRA 10:8)

(Baikal region--Hydrology)

LOPATIN, G.V., doktor geograficheskikh nauk.

Protection of small reservoirs from silting. (Interdepartmental conference in Leningrad). Vest. AN SSSR 27 no.6:108-109 Je '57.
(Reservoirs) (Silt)

LOPATIN, G.V.; DEN'GINA, R.S.; YEGOROV, V.V.; KOVDA, V.A., otvetstvennyy red.; TSVETKOV, N.V., red. izd-va; SMIRNOVA, A.V., tekhn. red.

[Delta of the Amu Darya] Del'ta Amu-Dar'i. Moskva, Izd-vo Akad. nauk SSSR, 1958. 156 p. (MIRA 11:7)

1. Chlen-korrespondent Akademii nauk SSSR (for Kovda)
(Amu Darya Delta)

LOPATIN G. V.

AUTHOR: [illegible]-Litovskiy, M. I., Lopatin, G.V. and [illegible]

TITLE: The Third All-Union Hydrological Congress (Tretiy vsesoyuznyy gidrologicheskiy s"yezd)

PERIODICAL: Izvestiya Akademii Nauk SSSR - Seriya Geograficheskaya, 1957, Nr 5, pp 5-9 (USSR)

ABSTRACT: From the 7th to the 17th October 1957 the Third All-Union Hydrological Congress took place in Leningrad. There were 1,200 experts on hydrology and adjacent subjects, and guests from people's democracies present; 429 reports were delivered among them 140 reports from workers of the Gidrometeosluzhba (The Hydrometeorological Service), about 65 from workers of the USSR Academy of Sciences and the same number of reports by workers of Soviet Higher Education Institutions. At the plenary meetings of the conference the following 9 reports were delivered: "Investigations on the Interior Waters of the USSR and Future Tasks in Studying This Subject" by V.A. Uryvayev; "Water Engineering Construction in the USSR and the Tasks of Hydrology" by S.N. Kritskiy, M.F. Menkel' and M.I. Chebotareva; " Investigating Lakes and water Reservoirs of the

Card 1/4

USSR" by Ye.V. Blagyak and V.G. Andreyanov; "The D[illegible] of the USSR Water Resources and the Future development of [illegible] Engineering" by A.N. Voznesenskiy; "The Present Methods of Hydrological Prognosis and Ways Leading to Their Develop[illegible] by V.I. Kalinin; "The Research and Computation of Water [illegible] charges in the USSR, Their Present State and Future Develop[illegible] ment" by D.L. Sokolovskiy; "The Climatic Factors of Water Balance on the Continent" by M.I. Budyko and O.A. Drozdov; N.Ye. Kondrat'yev reported on his research regarding the [illegible] formation of river beds, and Academician I.P. Gerasimov on "The Transformation of Water and Thermal Conditions Under the Influence of Meliorative measures". During the continuation of the conference the following reports were delivered in [illegible] y sections: B.L. Lichkov on "The Unity of Natural Waters and the Formation of Subsurface Waters", based on the theory of the Academician V.I. Vernadskiy; M.I. Livovich on "Complex [illegible] graphical method in hydrology and the Tasks of Its Develop[illegible]", A.V. Shpitnikov on "The Past and Future of Lake Aral [illegible] Big Climatic Rhythms"; B.A. Apollov on "The Connection Betwe[illegible] Solar Activity and the Phenomena Determining the Flow of [illegible] Ye.S. Kalinenteyn and O.A. Drozdov on "Climatic Changes [illegible] riations and the Secular Course of Precipitations". The [illegible]

Part 2/3

of P.A. Koslovskiy "Connections Between Hydrological and Terrestrial Electricity Problems" is said to have been interesting and valuable. Four reports were delivered by A.D. Arkin, V.S. Mezentsev, V.I. Astrakhantsev and I.V. Popov on questions of hydrological partitioning; K.Ye. Ivanov reported on "Basic Principles of Swamp Hydrology"; V.V. Romanov on "Water Balance of Swamps in the European Part of the USSR"; A.M. Gavrilov and P.V. Molitvin reported on their investigations regarding rivers in karst districts of the USSR. G.I. Shvets and E.G. Moskovkina reported on the regular fluctuations of the amount of water in the Dnepr and on matters of floods at the lower parts of the Daugava; I.V. Bogdyukova, L.M. Ayzenberg, V.Ye. Ioganson, S.P. Kavetskoy and others reported on the study of flood waters and on catastrophic floods in mountainous districts; A.I. Duens-Litovskiy on "Geological and Geographical Regularity in the Distribution of Fresh-water, Brackish- and Salt Lakes"; B.B. Bogoslovskiy on "Water Balance of Lakes in the USSR European Territory"; M.A. Man'ko and A.V. Agupov dealt in their reports with the subsurface supply of lakes, and A.N. Afanas'yev and O.I. Khalatyan with the water balance of the Lake Baykal and the Khrami water reservoir.

Card 5/6 G.I. Galaziy reported on "Botanical Method Serving Hydrology

and Engineering Geology". On the formation of shores and the bottom of water reservoirs, S.L. Vendrov dealt with the Tsimlyansk, the Kama, and the Kuybyshev water reservoirs; N.A. Labuovskiy, O.G. Grigor'yeva and A.S. Sukhodol'skiy on the theory of shore formation; V.M. Makaveyev dealt with the theory of surge in water reservoirs; other reports delivered by Ye.M. Selyuk, P.I. Nikulin, V.L. Bulakh, V.P. Moskal' and I.S. Nikitin dealt with the theory of surge and in particular with the water reservoirs of Rybinsk, Kuybyshev, Kakhovka, Dnepr and Central-Asia. Matters of thermal processes and water balance of water reservoirs were treated by I.V. Molchanov, K.I. Kosinskiy, M.M. Aynbund (Lake Sevan), V.I. Verbolov (Lake Baykal), A.R. Konstantinov and G.G. Fedorova (Lake Valday). On subsurface water resources and the subsurface supply of rivers reported S.F. Averyanov, S.N. Bogolyubov, B.I. Kudelin, B.L. Lichkov, P.A. Makarenko, G.M. Zakharchenko, A.I. Kalinin, V.A. Sergeyev, V.I. Duginov, V.A. Korobeynikov, G.F. Basov, N.I. Druzhinin, A.V. Lebedev, G.V. Popov and others referred to the state of subsurface water supplies and A.A. Rode, N.S. Favorin, A.K. Filippov and others to the water physical characteristics of soils. A.M. Ovchinnikov, V.I. Dukhanin and others reported on their investigations of the regularity of

subsurface water formation and distribution in the Russian lowland. From the regio[illegible] reports are mentioned: M.M. Ivanitsin, on the formation of subsurface water in the irri[illegible] cases of Uzbekistan; B.N. Arkhangel'skiy, on underground [illegible] pressions in the North-Western district; M.V. Silich, on the karst of the Lithuanian SSR. The question of evaporation from the water surfaces was covered by Z.A. Vikulin, B.L. Lapshin, T.V. Kirillov, A.A.Krassovskaya, M.P. Timofeyev, N.I. Yevseyev and others. On the subject of evaporation from ground and vegetation reports were delivered by V.F. Bushkarev, A.K. Dontsov, V.V. Romanov, N.P. Rusin, V.I. Kuznetsov, S.F. Fedorov, V.F. Shebeko and others. On ice and snow research spoke S.D. Nikhter, Ye.Ya. Shcherbakov, I.V. Ivanov, P.P. Kuz'min, G.A. Spengler, A.P. Braslavskiy, A.G. Kolesnikov, A.A. Pivovarov, A.G. Pronin, B.P. Ranov and others. On hydrochemistry and sanitary preservation of water, reports were delivered by N.M. Sorokov, S.M. Drachev, M.I. Krivoshtsov, A.O. Alekin, P.P. Sochkarev, N.V. Veselovskiy, P.P. Voronkov, K.K. Vatin-Perignon, D.G. Vanusdayev, K.V. Filatov and others; on the regularity of chemical composition in natural waters of different geographic zones reported A.O. Alekin, L.V. Orachnikova, I.V. Per[illegible]

Card 5/6

kov, A.I. Duans-Litovskiy and others. Considerable attention was paid to the study of the conditions in regulated rivers and the state of technical equipment in hydrometric work (O.N. Borsuk, Ye.M. Znamenskaya, J.I. Koplan-Dikshtein and A.K. Proskuryakov). On the possibility of using physical methods of measuring, based on the laws of ultra-acoustics and [illegible] radiation, reported M.M. Arkhangel'skiy, A.M. Dimakyan and Ye.V. Berg. I.V. Popova and Ye.A. Romanova reported on the future possibilities of using air photosurvey. Ye.V. Blinnyas proposed a scheme to systematize information on USSR water resources. On new methods of calculating the regulation of flow reported S.N. Kritskiy and M.F. Menkel'; I.A. Zheleznyak elucidated the phenomenon of transformation of the flood flow by means of a system of water reservoirs. Thirty five reports were presented by representatives of people's democracies.

AVAILABLE: Library of Congress

Card 6/6

1. Conferences - Hydrological Congress - Leningrad
2. Hydrology - USSR

AUTHOR: Lepasina, Z.V.

SOV-10-58-4-14/28

TITLE: Analyzing the Dependence of the Average Turbidity of River Water on the Predominant natural factors in Water Erosion (Opyt analiza zavisimosti srednej mutnosti rechnykh vod ot glavneyshikh prirodnykh faktorov vodnoy erozii)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geograficheskaya, 1958, Nr 4, pp 91-98 (USSR)

ABSTRACT: On the basis of research it can be established that there are three main factors responsible for the progress of water erosion: climatic, soil-geological and orographical factors. Agricultural activities, such as irrigation, are also of great importance. The author suggests a simplified system comprising four categories: 1) the stability of soil and rocks, 2) the steepness of slopes, 3) the condition of plant covering, 4) moisture conditions of the territory. Details of these characteristics are given in table 1. The author comes to the conclusion that by analyzing the turbidity of river waters it is possible to evaluate the individual role of the various erosion factors and thus to estab-

Card 1/2

SOV-10-58-4-14/28

Analizing the Dependence of the Average Turbidity of River Water on the Predominant natural factors in water Erosion

lish regional and local peculiarities of this complex natural phenomena. There are 4 diagrams, 1 table and 1 graph.

ASSOCIATION: Laboratoriya ozerovedeniya, AN SSSR (Laboratory of Limnology of the AS USSR)

1. Erosion--Analysis 2. Soils--Erosion 3. Soils--Moisture content
4. Inland waterways--Sedimentation

Card 2/2

LOPATIN, G.V.

Surveying the studies on silting of small bodies of water in the U.S.S.R. Trudy Lab. ozeroved. 7:18-25 '58. (MIRA 11:10)

1. Laboratoriya ozerovedeniya AN SSSR.
(Silt)

LOPATIN, G.V.; YAKOVLEVA, L.V.

Experience in studying the silting process of small bodies of water in Kursk Province. Trudy Lab. ozeroved 7:63-72 '58. (MIRA 11:10)

1.Laboratoriya ozerovedeniya AN SSSR.
(Kursk Province--Silt)

LOPATIN, G. V. (USSR)

"Verschlammungsfaktoren von kleinen Staubecken in der Steppen- und Waldsteppenzone der U.S.S.R."

report submitted for the 14th Intl. Limnological Congress, Vienna, 20 Aug - 8 Sept 1959.

LOPATIN, G.V.

Aybugir; data on changes taken place during the last century. (MIRA 13:2)
Trudy Lab. ozeroved. 8:229-233 '59.
(Aybugir region--Physical geography)

KALESNIK, S.V., prof., otv. red.; LOPATIN, G.V., doktor geogr. nauk, red.; SHNITNIKOV, A.V., doktor geogr. nauk, red.; MOSKVICH, N.A., doktor biolog. nauk, red.; ZHELEZNYAK, I.A., kand. tekhn. nauk, red.; TSVETKOV, N.V., red. izd-va; ZAMARAYEVA, R.A., tekhn. red.

[Small bodies of water in lowland regions of the U.S.S.R. and their utilization] Malye vodoemy ravninnykh oblastei SSSR i ikh ispol'zovanie. Moskva, 1961. 399 p. (MIRA 14:5)

1. Akademiya nauk SSSR. Laboratoriya ozerovedeniya. 2. Chlen-korrespondent AN SSSR (for Kalesnik)
(Water resources development--Congresses)

LOM.TIN, G.V.

Inves igati [illegible] res rvoirs in [illegible] 1956-
1956. Trudy Lab. ob roved. 13:5-21 '6[illegible].
([illegible]rovince--Reservoirs)

LOPATIN, G. V.

(V)

BRAUDE, Izrail' D., — "Methods of forest improvement to prevent erosion"

LOPATIN, G. V., — "The intensity of water erosion on the territory of the USSR"

MESHCHERYAKOV, Yuriy A., — "The influence of movement of the crust of the earth on erosion processes"

PIESCHYAKOVA, Galina A., — "Soil erosion caused by the irregular flow of ground waters and methods of combatting it"

SILVESTROV, S. I. - "On the division of territories subject to erosion in the USSR"

SOBOLEV, Sergey S., "The principal types of soil erosion and the geographic distribution of erosion factors in the territory of the USSR"

reports to be submitted for the Intl. Association of Scientific Hydrology, Symposium on Continental Erosion, Bari, Italy 1-6 Oct 1962
sponsored by IUGG

KALESNIK, S.V., prof., otv. red.; LOPATIN, G.V., doktor geogr. nauk, red.izd.; TSVETKOV, N.V., red.izd-va; BOCHEVER, V.T., tekhn. red.

[Hydrology of Uspenskoye Reservoir and its water collecting basin] Voprosy gidrologii Uspenskogo vodokhranilishcha i ego vodosbora. Moskva, Izd-vo AN SSSR, 1963. 289 p. (MIRA 16:12)

1. Akademiya nauk SSSR. Laboratoriya ozerovedeniya. 2. Chlen-korrespondent AN SSSR (for Kalesnik).
(Uspenskoye Reservoir—Hydrology)

LOPATIN, G.V., doktor geogr. nauk, otv. red.; IOGANSON, V.Ye., kand. geogr. nauk, red.; GAGOSHIDZE, M.S., prof., red.; DUMITRASHKO, N.V., doktor geogr. nauk, red.; KOCHERGA, F.G., kand. sel'khoz. nauk, red.; SRIGNYY, M.F., doktor tekhn.nauk, red.; CHUBUKOV, L.A., doktor geogr. nauk, red.

[Mudflows of the U.S.S.R. and measures for controlling them] Seli v SSSR i mery bor'by s nimi. Moskva, Izd-vo "Nauka," 1964. 280 p. (MIRA 17:6)

1. Akademiya nauk SSSR. Institut geografii.

KEMALADZE, Grigoriy Nikolayevich; YEGIAZAROV, I.V., akademik, retsenzent; LOPATIN, G.V., doktor geogr. nauk, retsenzent; LISITSYNA, K.N., nauchn. sotr., retsenzent; BOGOLYUBOVA, I.V., nauchn. sotr., retsenzent; KHERKHEULIDZE, I.I., red.; CHMELKINA, L.A., red.

[Suspended sediments of the rivers of the Armenian S.S.R.] Vzveshennye nanosy rek Armianskoi SSR. Leningrad, Gidrometeoizdat, 1964. 245 p. (MIRA 17:9)

1. Laboratoriya nanosov Gosudarstvennogo gidrologicheskogo instituta (for Lisitsyna, Bogolyubova).

KALESNIK, S.V., otv. red.; [illegible], G.V., [illegible], red.
[deceased]

[Water budget and silting of small reservoirs in the Central Chernozem provinces of the R.S.F.S.R.] Vodnyi balans i zailenie malykh vodokhranilishch Chernozemnogo TSentra RSFSR. Moskva, Nauka, 1965. 241 p.
(MIRA 18:5)

1. Akademiya nauk SSSR, Laboratoriya ozerovedeniya.

IOPATIN, G.Ye.

Creeping collapse of [illegible] along the ground of the workings. Trudy VNII (Sverd.) [illegible] 164.

Manifestation of coal pressure in mining a steep, medium thick-seam coal seam by the diagonal pillar system. [illegible]
(MIRA 17:10)

SHCHERBAKOV, I.A.; IOFATIN, G. Ye.; [illegible] V.; VIDOROV, I.N.

Method of determining the aerodynamic efficiency of manless stoping in coal seams. Trudy IGD [illegible] no.[illegible] 164.
(MIRA 17:10)

SIDOROV, I.N.; DUDYREV, N Ya.; LOPATIN, G.Ye.; SHCHERBAKOV, I.A.

Mining steep seams with diagonal pillars and a manless stoping of coal. Trudy IGD (Sverd.) no.8:31-38 '64. (MIRA 17:10)

LOPATIN, G.Ye.; KAPKOV, u.V.

Investigating stress distribution around an untimbered working.
Trudy IGD (Sverd.) no.8:55-60 '64. (MIRA 17:10)

LOPATIN, G.Ye., inzh.

Effect of the angle of pitch of a seam on the stability of the immediate roof rock and the size of the span of untimbered workings. Izv. vys.ucheb.zav.;gor.zhur. 7 no.7:8-11 '64. (MIRA 17:10)

1. Institut gornogo dela Gosmetallurgkomiteta pri Gosplane SSR. Rekomendovana laboratoriyey razrabotki plastovykh mestorozhdeniy.

GLAZUNOV, A.A.; GLAZUNOV, Aleksandr Aleksandrovich; RAZANOV, G.M. [authors]; LOPATIN, I.A., inzhener (Leningrad); VEKSEL'MAN, O.G., inzhener [reviewers].

Remarks on A.A.Glazunov's, A.A.Glazunov's and G.M.Rozanov's article "Economically practical relationship of the cross section of aluminum and steel in steel-aluminum conductors." Elektrichestvo no.6:61-66 Je '53. (MLRA 6:7)

1. Khar'kovenergo (for Veksel'man). (Electric cables) (Glazunov, Aleksandr Aleksandrovich, 1891-) (Glazunov, A.A.) (Rozanov, G.M.)

SMIRNOV, V.S.; KAMENSKIY, M.D.; PODPORKIN, V.G.; DUKEL'SKIY, A.I.; NEYMAN, L.R.; ZALESSKIY, A.M.; KOSTENKO, M.V.; RAVDONIK, V.S.; SHCHERBACHEV, O.V.; LOPATIN, I.A.; MAKOVTOVA, A.N.; FILARETOV, S.N.; KRYUKOV, K.P.; SINELOBOV, K.S.; BOSHNYAKOVICH, A.D.; BURGSDORF, V.V.; NOVGORODTSEV, B.P.; GOKHBERG, M.M.; STEFANOV, K.S.

Nikolai Pavlovich Vinogradov; obituary. Elektrichestvo no.10: 91-92 O '61. (MIRA 14:10)
(Vinogradov, Nikolai Pavlovich, 1886-1961)

LOPATIN, I.K.

Beetles

New species of Palearctic leaf beetles (Chrysomelidae) Biul. MOIP. Otd. biol. 57 No. 4, 1952

Monthly List of Russian Accessions, Library of Congress, December, 1952 UNCL.

LOPATIN, I.K.

New species of leaf beetles of the genus Cryptocephalus Geoffr. (Coleoptera, Chrysomelidae). Ent.obos. 33:307-310 '53. (MLRA 7:5)
(Leaf beetles)

LOPATIN, I.K.

New forms of leaf beetles (Chrysomelidae) of the Palaearctic.
Biul.MOIP. Otd.biol. 59 no.5:96-98 S-O '54. (MLRA 8:1)
(Leaf beetles)

LOPATIN, I.K.

LOPATIN, I.K.; LUPPOVA, Ye.P.; NARZIKULOV, M.N.; SHCHETKIN, Yu.L; ANTOVA, Yu.K.: LINDT, I.I.

"Insects of cotton and alfalfa fields of Uzbekistan." R.A.Alimdzhanov, TS.G.Bronshtein. Reviewed by I.K.Lopatin and others. Zool.zhur. 34 no.3:691-694 My-Je '55. (MLRA 8:8)
(Uzbekistan--Insects, Injurious and beneficial) (Cotton--diseases and pests) (Alfalfa--Diseases and pests) (Alimdzhanov, R.A.) (Bronshtein, TS.G.)

LOPATIN, I. K.

USSR/General Division. History. Classics. Personalities. A-2

Abs Jour : Ref Zhur-Biologiya, No 20, 1957, 85033

Author : I. K. Lopatin
Inst :
Title : The History of the Study of the Tadzhikistan Entomofauna

Orig Pub : Uch. Zap. Tadzh. Un-ta, 1956, 12, 89-97

Abstract : No abstract.

Card 1/1

USSR / General and Specialized Zoology. Insects. P

Abs Jour: Ref Zhur-Biol., No 2, 1958, 6824.

Author : ~~Lopatin, I. K.,~~ Tuzhilkina, R. P.
Inst : Tadzhikistah University.
Title : On Certain Injurious Beetles of the Tree and Shrub Species of the South-Western Tadzhikistan.

Orig Pub: Uch. zap. Tadzh. un-ta, 1956, 12, 99-107.

Abstract: The plants used for food, the character of the damages (12 figures), and the places of discovery in the years of 1954-1955, of the following species from the Chrysomelidae family: Zeugophora scutellaris, Clytra atraphaxidis, C. appendicina, C. opaca, C. quadripunctata, Gynandrophthalma discolor, G. macilenta, Pachybrachis scripticollis, Thelyterotarsus nigrifrons, Cryptocephalus astrachanicus, C. undulatus, C. tar-

Card 1/2

LOPATIN, I. K.

14-57-6-12619

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 124 (USSR)

AUTHOR: Lopatin, I. K.

TITLE: New Species of Leaf-Cutting Beetle Coleoptera, Chrysomelidae from Tadzhikistan /Novyye vidy listoyedov (Coleoptera, Chrysomelidae) iz Tadzhikistana/

PERIODICAL: Dokl. AN TadzhSSR, 1956, Nr 16, pp 71-72

ABSTRACT: Two species of leaf-eating Coleoptera are described: Pentamesa kondarensis, 25 specimens of which were collected in the Kondar ushchel'ye (valley) and the Gissar Range, and Longitarsus sogdianus, many specimens of which were discovered on the Pushta-Kazor khrebet (range) in the Kulyab oblast (the name of the genus was given in the title of the work).

V. Ya.

Card 1/1

LOPATIN, I.K.

New and little known species of leaf beetles (Coleoptera, Chrysomelidae) in the U.S.S.R. and adjacent countries. Izv. Otd. est. nauk AN Tadzh. SSR no.16:157-163 '56. (MLRA 10:4)

1. Tadzhikskiy gosudarstvennyy universitet.
(Leaf beetles)

LOPATIN, I.K.

Material on the leaf beetles (Chrysomelidae) in Takikistan. Dokl. AN Tadzh.SSR no.17:35-41 '56. (MLRA 9:11)

1. Tadzhikskiy gosudarstvennyy universitet.
(Tajikistan--Leaf rollers)

LOBATIN, L.K.

Materials on the leaf beetles (Coleoptera, Chrysomelidae) of Central Asia. Dokl. AN Tadzh. SSR no.18:43-49 '56. (MLRA 10:4)

1. Tadzhikskiy gosudarstvennyy universitet. 2. Predstavleno Institutom zoologii i parazitologii im. akad. Ye.N. Pavlovskogo AN Tadzhikskoy SSR.
(Soviet Central Asia--Leaf beetles)

LOPATIN, I.K.

Materials on the leaf beetle (Coleoptera Chrysomelidae) of central Asia. Dokl. AN TAdzh. SSR 1 no.2:31-35 '58. (MIRA 12:1)

1.Tadzhikskiy gosuniversitet imeni V.I. Lenina. Predstavlene chlenom-korrespondentom AN Tadzhikskoy SSR M.N. Narzikulovym.
(Soviet Central Asia--Leaf beetles)

LOPATIN, I.K.

Leaf beetles (Chrysomelidae) in the valleys of southern Tajikistan. Trudy AN Tadzh.SSR 115:47-56 '59. (MIRA 15:5)

1. Tadzhikskiy gosudarstvennyy universitet imeni V.I.Lenina.
(Tajikistan--Leaf beetles)

LOPATIN, I.K.

Materials on the fauna and ecology of leaf beetles (Coleoptera, Chrysomelidae) in the southern part of the trans-Dnieper area. Ent. oboz. 39 no.3:629-642 '60. (MIRA 13:9)

1. Tadzhikskiy gosudarstvennyy universitet, Stalinbad.
(Ukraine--Leaf beetles)

LOPATIN, I.K.

Genus Thelyterotarsus Wse. (Coleoptera, Chrysomelidae) in Tajikistan and adjacent areas of Central Asia. Dokl. AN Tadzh. SSR 3 no. 2:37-40 '60. (MIRA 14:4)

1. Tadzhikskiy gosudarstvennyy universitet imeni V.I. Lenina. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR M.N. Narzikulovym.

(Tajikistan--Leaf beetles)

LOPATIN, I.K.

Two new species of flea beetles (Coleoptera, Chrysomelidae, Halticinae) from Tajikistan. Ent. obos. 40 no.1:144-146 '61. (MIRA 14:4)

(Tajikistan--Flea beetles)

LOPATIN, I.K.

New species of leaf beetles (Coleoptera, Chrysomelidae) from Tajikistan. Zoo. zhur. 40 no. 2:201-206 F '61. (MIRA 14:2)

1. Tajik State University (Stalinabad).
(Tajikistan—Leaf beetles)

LOPATIN, I.K.

Fauna of leaf beetles (Coleoptera, Chrysomelidae) in Afghanistan.
Zool. zhur. 41 no.12:1811-1816 D '62. (MIRA 16:3)

1. State University of Tajikistan, Dushanbe.
(Afghanistan--Leaf beetles)

LOPATIN, I.K.; MEDVEDEV, L.N.

Description of the larva of Clytra opaca Jacobs. (Coleoptera, Chrysomelidae) from Tajikistan. Dokl. AN Tadzh. SSR 6 no.2: 43-45 '63. (MIRA 17:4)

1. Zoologicheskiy institut AN SSSR. Predstavleno chlenom-korrespondentom AN Tadzhikskoy SSR M.N.Narzikulovym.

LOPATIN, I.K.

A new species of the leaf beetle of the genus Jaxartiolus Jacobs. (Coleoptera, Chrysomelidae, Cryptocephalinae) from Kazakhstan. Ent. obozr. 42 no.4:855-857 '63. (MIRA 17:8)

1. Tadzhikskiy gosudarstvennyy universitet, Dushanbe.

LOPATIN, I.K.

Entomofauna and ecologic groups of insects in hardwood forests of the Gissar and Darvaza Ranges. Uch. zap. Tadzh. un. 17. Trud. Fak. est. nauk no.3:31-37 '58 (MIRA 17:7)

Fauna of leaf beetles (Coleoptera, Chrysomelidae) of the Gissar Range. Ibid.:39-46

LOPATIN, I.K.

Materials on the fauna of leaf beetles (Coleoptera, Chrysomelidae) in Central Asia. Trudy Inst. zool. i paraz. AN Tadzh. SSR 24:116-123 '63. (MIRA 17:11)

1. Institut zoologii i parazitologii imeni akademika Pavlovskogo AN Tadzhikskoy SSR.

24,6810

S/139/59/000/06/021/034
E032/E114

AUTHORS: Kruglov, S.P., Kovarzh, Z., and Lopatin, I.V.

TITLE: Relation between the Roentgen and the Energy of Gamma Radiation Incident per Square Centimetre

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1959, Nr 6, pp 139-144 (USSR)

ABSTRACT: It is usual at the present time to express the intensity of gamma radiation obtained from accelerators in energy units such as w/cm^2 or $MeV/cm^2.sec$. However, frequently another unit is used, namely, roentgen/min. On the other hand, it is well known that the roentgen loses its significance as a unit above 3 MeV. The present authors have used the calorimetric method to establish the connection between the roentgen and the energy in MeV/cm^2 for E_{max} = 45, 65 and 85 MeV. The gamma rays were produced by the synchrotron of the Leningrad Physico-Technical Institute of the Academy of Sciences, USSR. The experimental arrangement is shown in Fig 1, in which T is the synchrotron target, 3 is a lead screen, K is a collimator, M is an ionization chamber monitor, MГ is a clearing magnet, KЛ is the

Card 1/4

69163

S/139/59/000/06/021/034
E032/E114

Relation between the Roentgen and the Energy of Gamma Radiation Incident per Square Centimetre

calorimeter, CT is an adjustable calorimeter table, C is the standard ionization chamber (13 mm copper front wall), HK is a thimble chamber similar to the Victoreen chamber (volume = 2 cm^3), and ϑ is a lead jacket (3.1 mm thick). The distances between the various parts of the apparatus are indicated, and are in mm. The gamma ray beam diameter was determined with the aid of an X-ray film and was found to be 5.45 cm at the standard ionization chamber. The intensity of the gamma beam was found to be uniform over its cross-sectional area to within 2-3%. Recombination effects were found to be negligible. In the first stage of the experiment the calorimeter was used to determine the energy of the gamma rays necessary to produce one coulomb of charge in the standard ionisation chamber. The energy necessary to produce one coulomb of charge in the monitor was also determined. From these determinations it was found that at E_{max} = 85 MeV the required factor was 4.25 x 10^{18} MeV/coulomb in the standard chamber.

Card 2/4

2163
S/139/59/000/06/021/034
E032/E114

Relation between the Roentgen and the Energy of Gamma Radiation Incident per Square Centimetre

The second stage of the measurements consisted in the determination of the charge (in coulombs) collected by the Victoreeen chamber corresponding to 1 coulomb collected by the standard chamber. This gave the value of the ratio V/S where V refers to the Victoreen chamber and S to the standard chamber. The ratio V/S = α then indicates that a charge of α coulombs collected in the Victoreen chamber is due to a gamma ray energy which produces in the standard chamber 1 coulomb of charge. Knowing the volume of the Victoreen chamber, it is thus possible to determine the number of roentgens, and knowing the area of the beam at this chamber one can determine the number of MeV/cm^2. The ratio of these quantities gives the factor MeV/cm^2.r. Experiments showed that at 85, 65 and 45 MeV this factor is 1.68×10^9, 1.65×10^9 and 1.56×10^9 MeV/cm^2.r, respectively. The maximum error is 7-8%. Fig 2 shows the results of the present work together with those of other workers. Good agreement is found for the values

Card 3/4

4

59163
S/139/59/000/06/021/034
E032/E114

Relation between the Roentgen and the Energy of Gamma Radiation Incident per Square Centimetre

at 45 MeV, which is the only point in common with the previous determinations.
This paper was reported at the Inter-Collegiate Conference on Accelerators (Tomsk, February 1958).
There are 2 figures and 6 English references.

Card 4/4

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut AN SSSR (Leningrad Physico-Technical Institute, Academy of Sciences, USSR)

SUBMITTED: December 27, 1958

KRUGLOV, S.P.; LOPATIN, I.V.

Realtionship of absorbed energy and ionization for γ-quanta of E_{max}= 85 Mev. Zhur.tekh.fiz. 29 no.2:273-275 F '59. (MIRA 12:4)

1. Fiziko-tekhnicheskiy institut AN SSSR, Leningrad.
(Gamma rays)

24.6810

69427
S/139/60/000/01/001/041
E032/E314

AUTHORS: Kruglov, S.P., Kovarzh, Z. and Lopatin, I.V.

TITLE: Comparison of Ionisation and Calorimetric Measurements of the Intensity of γ-rays from a Synchrotron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, Nr 1, pp 3 - 11 (USSR)

ABSTRACT: It has been shown (Ref 1) that there is a discrepancy of 25-30% between γ-ray energy-flux measurements by different methods. The present paper is concerned with the physical reasons for this discrepancy and describes experiments which have been carried out using the 85 MeV synchrotron of the Leningrad Physico-technical Institute of the Ac.Sc., USSR. The γ-ray flux was measured both by the calorimetric and the ionisation methods. In the calorimetric method the γ-rays were absorbed in a lead cylindrical absorber and the temperature change was measured with the aid of a thermistor. Absorbing cylinders 11 cm and 4 cm long were used. The calorimeter employed is shown in Figure 1. In this figure, 1 is a perspex container, 2 is a steel chamber, 3 are polished plates, 4 are steel pillars, 5 are stirrers, 6 is an aluminium plate, 7 are aluminium foils, 8 are brass

Card1/6

Comparison of Ionisation and Calorimetric Measurements of the Intensity of γ-rays from a Synchrotron

flanges, and all the dimensions indicated are in mm. As can be seen, two identical calorimeters are employed in order to reduce the effect of fluctuations in the external temperature. The thermistors in the two cylinders had equal temperature coefficients (to better than 0.5%) and were included in opposite arms of a Wheatstone bridge. The cylinders were well insulated from the chamber 2 and from each other. To achieve this they were suspended on thin threads in a vacuum of 10^{-4} mm Hg. The surface of the cylinders and of the reflectors 3 was carefully polished to reduce radiation losses. The envelope 1 was thermostated. The instrument was calibrated with the aid of a special heating element which communicated/an accurately known amount of energy to the cylinders. The calibration curve for a cylinder 11 cm long is shown in Figure 3. The accuracy is indicated by the dotted lines and is $\pm$ 1%. A photograph of the calorimeter is shown in Figure 2. Figure 4 shows the disposition of the apparatus in an actual

Card2/6

Comparison of Ionisation and Calorimetric Measurements of the Intensity of γ-rays from a Synchrotron

experiment. The γ-ray beam which leaves the collimator K passes through the monitor M , a clearing magnet M' and enters the cylinder U of the calorimeter KJ1. A standard ionisation chamber C is placed behind the calorimeter in the path of the beam. The charge collected in this chamber per unit energy of the γ-beam depends only on the maximum energy E_{max} at a given temperature and pressure. The measurements were carried out in two stages. First, the energy of the γ-beam necessary to produce one coulomb of charge in the monitor ionisation chamber M was measured using the calorimeter. Next, the ratio of charges collected, during equal times, by the monitor and the standard ionisation chamber C was determined. The product of the two quantities gives the result. The second method employed was as follows. A thin-walled ionisation chamber was placed inside a block of a material. A measurement was then made of the ionisation in the chamber as a function of the thickness of the material in front of it (transition curve). Since, in the case of complete

Comparison of Ionisation and Calorimetric Measurements of the Intensity of γ-rays from a Synchrotron

absorption of the γ-beam, all its energy is, in the last analysis, used in ionisation, it follows that the incident energy U of the γ-ray can be related to the ionisation in the air-filled region of the chamber by Eq (1), where W is the energy necessary to produce one pair of ions in air, $\bar{\varrho}(t)$ is the ratio of the ionisation losses per cm of path in the substance employed and in air (averaged over electron energies) and I(t) is the number of ion pairs per cm of path in the air gap at a depth t. If $\bar{\varrho}$ is independent of t then the integral $\int_0^\infty I(t)dt$ is equal to the area under the transition curve.

Figure 5 shows the ionisation chamber which was used. The high-voltage electrode B and the collecting electrode C were in the form of aluminium foils, 0.05 mm thick. The back-scatterer P also serves as the second high-voltage electrode. The depth of the working volume is 2 cm. With such a dimension of the air gap, electrons scattered

Card4/6

69427
S/139/60/000/01/001/041
E032/E314

Comparison of Ionisation and Calorimetric Measurements of the Intensity of γ-rays from a Synchrotron

through large angles will be deflected sideways and will not contribute to the ionisation. All the measurements were extrapolated to zero thickness of the air gap. The experimental technique was similar to that in the case of the calorimetric method. It was found that the calorimetric method is the most direct and accurate. The only assumption in this method is that all the absorbed γ-ray energy is converted into heat and this holds provided chemical changes and changes in the crystalline structure do not take place. The transition-curve method for high Z materials (lead) gives a low result. The main reason lies probably in that the extrapolation to zero thickness of the ionisation chamber cannot be assumed as linear. However, in the case of low Z materials such as carbon, aluminium and copper, the agreement between the calorimetric method and the transition-curve method is sufficiently good. There are 9 figures, 1 table and 9 references, 1 of which is Soviet and 8 are English.

Card5/6

69427
S/139/60/000/01/001/041
E032/E314

Comparison of Ionisation and Calorimetric Measurements of the Intensity of γ-rays from a Synchrotron

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut AN SSSR
(Leningrad Physico-technical Institute of the Ac.Sc.USSR)

SUBMITTED: December 27, 1958

Card 6/6

81108

S/057/60/030/04/05/009
B004/B002

21,2000

AUTHORS: Kruglov, S. P., Lopatin, I. V.

TITLE: Investigation of the Energy Losses of a Bremsstrahlung Beam From a Calorimetric Absorber. I

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1960, Vol. 30, No. 4, pp. 424-432

TEXT: The authors discuss the calorimetric measurement of the energy of accelerator bremsstrahlungs. Since the absorption of the total energy of γ-radiation yields too large Pb-absorbers with low sensitivity, small absorbers are used, and a correction of the energy loss is necessary. The present paper deals with the measurement of this energy loss. Processes developing in the absorber by γ radiation are described, and the following secondary effects are discussed: 1) γ quanta which underwent a Compton scattering; 2) γ quanta from the annihilation of positrons and electrons; 3) bremsstrahlung of the electrons. The intensity of the radiation leakage was measured by means of a plexiglass ionization chamber (Fig. 1). Fig. 2 shows the experimental setup by means of the

Card 1/3

Investigation of the Energy Losses of a Brems- S/057/60/030/04/05/009
strahlung Beam From a Calorimetric Absorber. I B004/B002

synchrotron of the authors' institute. The measuring chamber was arranged in a circular path at different angles θ with respect to the absorber. The standard used was an ionization chamber placed upon the beam axis. All data obtained at 760 torr and 20°C were referred to its indications.

The measuring chamber was calibrated by means of Co^{60} and 120 kev X-ray tubes in the rentgenometricheskaya laboratoriya VNIIM (Radiometric Laboratory of the All-Union Scientific Research Institute of Metrology imeni D. I. Mendeleyev) (Head: M. F. Yudin). Fig. 3 shows the dependence of the chamber sensitiveness on the thickness of the plexiglass. In the experiment, a linear absorption coefficient of $\tau = 0.50 \pm 0.03$ cm^{-15} was obtained for all θ. Fig. 4 shows the radiation leakage reduction in plexiglass at different θ, and Figs. 5-7 and Table 1 give the angular distributions of the energy losses ΔU measured in three different absorbers. The results were calorimetrically examined (Table 2). The authors found the radiation leakage to be anisotropic, a fact which explains the shift of the absorption maxima. The second maximum at 140° is not affected by the diameter of the absorber (Fig. 8, Table 3). Hence, it was concluded that a gamma beam can never be completely absorbed, since

Card 2/3

81108

Investigation of the Energy Losses of a Brems- S/057/60/030/04/05/009
strahlung Beam From a Calorimetric Absorber. I B004/B002

1.5% of the incident energy is always irradiated in angles wider than 90°, and the energetic albedo of Pb, i.e. at $E_{\gamma max}$ = 85 mev, has the value of 1.5%. The authors thank Professor A. P. Komar for discussions, and Z. Kovarzh for his assistance in the measurements. There are 8 figures, 3 tables, and 10 references: 4 Soviet and 6 American.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR Leningrad (Institute of Physics and Technology of the AS USSR, Leningrad)

SUBMITTED: August 28, 1959

Card 3/3

25036
S/057/61/031/007/019/021
B104/B206

24.6410

AUTHORS: Kruglov, S. P. and Lopatin, I. V.

TITLE: Electron spectrum forming in light substances through bremsstrahlung with $E_{\gamma max}$ = 80 Mev

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 31, no. 7, 1961, 876 - 887

TEXT: The authors describe a method for the calculation of electron spectra of light substances. Introduction and first paragraphs deal with the measurement of the energy flux of γ radiation according to Bragg-Gray (L. H. Gray, Proc. Roy, Soc., 156A, 578, 1936) and determination of the spectrum of the electrons developing in the substance. The behavior of the electrons and photons in the substance in which cascade showers develop, is described by the complicated integro-differential equations of the cascade theory. Exact solutions of these equations are not known, and approximations by S. Z. Belen'kiy (deceased) and I. P. Ivanenko (UFN, 59, 624, 1959) are referred to. Since the energy, beginning from which the cascade processes play an important part, is the greater the lower the atomic number, these processes may be neglected for light substances

Card 1/6

(graphite, water, aluminum), if the energy of the photons and electrons does not exceed some ten Mev. In this case the electron spectrum may be determined by calculating the initial energy distribution of the electrons produced through γ-radiation by taking their moderation into account. H. Prysk (Phys. Rev., 96, 419, 1954) proposed such a calculation which is, however, complicated and requires much time. Brysk et al. (Am. J. Roentgenol., Radium Therapy, 74, 323, 1955) gave a simplification of this method. The authors develop a method for calculating the electron spectra in light substances, following the method developed by D. V. Cormarck et al. (Brit. J. Radiol., 25, 369, 1952; Nucleonics, 12, no. 10, 40, 1954). The authors obtain expression

$$N(E)=\frac{dR}{dE}\int_{E}^{E_{\gamma\,max}} N(E_0)\,dE_0=\frac{1}{S_z}\int_{E}^{E_{\gamma\,max}} N(E_0)\,dE_0, \qquad (3),$$

for the energy distribution of the electrons where S_z is the total moderating power of the substance in Mev/cm. The spectrum by L. I. Schiff (Phys. Rev., 83, 252, 1951) was used for calculating the initial energy distribution of the electrons (Fig. 1). Fig. 2 shows the dependences of the differential cross sections of the Compton effect (curve 1) and those

Electron spectrum forming...

of pair formation (curve 2) in aluminum on the photon energy at fixed electron energy, Curve 3 is the sum of the two cross sections, i. e., it gives in Mev the total number $N(E_0, h\nu)$ of the electrons and positrons of a given energy E_0, which are produced by one photon per $1\ cm^2$. From this, the total number of electrons is then calculated with $\int_0^{h\nu_{max}} I(h\nu)N(E_0,h\nu)dh\nu$. The graphically determined values of integrals of the form $\int_{h\nu_1}^{h\nu_2} N(E_0, h\nu)dh\nu$ are given in a table, with the aid of which the initial energy distribution of the electrons produced in graphite and aluminum by any γ-radiation with the maximum energy of 80 Mev, may be calculated. The authors further consider the weakening of the γ-radiation with increasing penetration depth when calculating the energy distribution of the electrons. The γ-radiation is assumed to change exponentially with the depth. In this connection the authors refer

Card 3/6

Electron spectrum forming...

to G. White-Grodstein (NBS circular, 583, 1957). Fig. 5 gives a graphical representation of the energy distributions of the electrons at various depths in Al and graphite, calculated by formula (3). The authors thank Professor A. P. Komar for the discussion and Z. Kovarsh for assistance with the calculations. There are 5 figures, 3 tables, and 27 references: 3 Soviet-bloc and 24 non Soviet-bloc.

ASSOCIATION: Fiziko-tekhnicheskiy institut im A. F. Ioffe AN SSSR
Leningrad (Physicotechnical Institute imeni A. F. Ioffe, AS USSR, Leningrad)

SUBMITTED: August 11, 1960

Card 4/6

KRUGLOV, S.P.; LOPATIN, I.V.

Electron spectra produced in light substances by bremsstrahlung with an intensity of E γ max = 80 mev. Zhur. tekh. fiz. 31 no.7:876-887 Jl '61. (MIRA 14:7)

1. Fiziko-tekhnicheskiy institut imeni A.F. Ioffe AN SSSR, Leningrad.

(Electrons--Spectra)
(Bremsstrahlung)

39584
S/020/62/145/002/008/018
B178/B104

21,6000

AUTHORS: Komar, A. P., Academician AS UkrSSR, Kruglov, S. P., and Lopatin, I. V.

TITLE: Sensitivity determination of a quantometer for energies of 15-300 Mev

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 2, 1962, 309-311

TEXT: A quantometer is used to measure the area $S_T = \int_0^\infty i(t)dt$ bounded by the ionization current i(t) and produced by γ-irradiation of a body. This area is proportional to the energy current

$$U = \frac{\omega \bar{Q}}{e} \frac{\delta_z}{\delta_g} S_T$$

where ω is the energy consumed for the production of ion pairs; e is the electron charge; $\bar{Q}$ is the mean ionization loss; δ_z is the density of the matter; and δ_g is the density of the gas. The value of S as determined

Card 1/3

Sensitivity determination of a...

with a quantometer for $E_{max} > 100$ Mev differs from S_T by 1 %. In this case, the sensitivity of the instrument is $C = \frac{I}{U} = \frac{e}{\omega \bar{Q}} \frac{\delta_g}{\delta_z} \frac{\bar{a}}{X_0}$, where X_0 is the plate diameter of a multiplate ionization chamber, and $\bar{a}$ is the mean spacing of the plates. At energies of ~ 100 Mev, C remains constant. For very low energies, $C^* = \frac{e}{\omega \bar{Q}} \frac{\delta_g}{\delta_z} \frac{\bar{a}}{X_0} \frac{S}{S_T}$ and $\bar{Q}$ increases by 2.5 % as E_{max} drops from 100 to 15 Mev. For these energies it is necessary to compare the data with a calorimeter. The experimental arrangement is shown in Fig. 1. The curves obtained for the sensitivity of the quantometer are normalized using experimental data, and the sensitivity can thus be represented as a function of E_{max} in the range 15-300 Mev. The error is less than 10 %. There are 4 figures.

Card 2/3

S/020/62/145/002/008/018
B178/B104

Sensitivity determination of a...

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

SUBMITTED: April 14, 1962

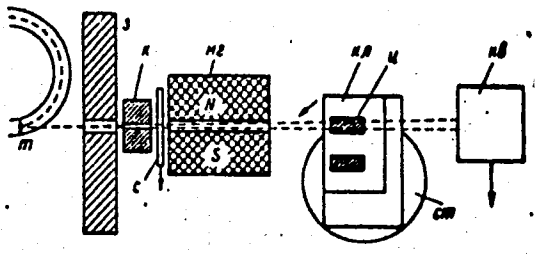

Fig. 1

Card 3/3

S/057/62/032/011/012/014
B104/B102

AUTHORS: Kruglov, S. P., and Lopatin, I. V.

TITLE: A study of the energy leakage of a bremsstrahlung ray from the absorber of a calorimeter. II

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 11, 1962, 1399-1403

TEXT: In Part I of this paper (S. P. Kruglov, I. V. Lopatin, ZhTF, 30, 424, 1960) the angular distribution of the energy leakage from absorbers of length l = 120 mm and diameters D = 55, 75, 95, and 120 mm was studied for an energy of $E_{\gamma max}$ = 85 Mev. The diameter of the ray on the surface of the absorber was d = 35 mm, in some measurements it was 20, 45, 60 or 80 mm. Now the same experimental arrangement is used to determine the dependence of the energy leakage from a cylindrical lead absorber as a function of its diameter and of its length for different values of $E_{\gamma max}$ (Figs. 2 and 4). Using these results, the energy leakage from absorbers of different lengths is represented in Fig. 5 as a function of the energy leakage from an absorber of length 120 mm. The curves enable the energy

Card 1/5

leakage of different absorbers to be estimated if that of an absorber 120 mm long is known. Absorbers shorter than 60 mm are found to be unsuitable. The fraction of the ray energy carried away by the transmitted component is estimated on the basis of the papers of L. I. Schiff (Phys. Rev., 83, 252, 1951) and G. White-Grodstein (NBS Circular, No. 583, 1957) (Fig. 6). An experimenter developing a calorimeter has to determine those absorber dimensions that will guarantee a given energy leakage. For this purpose a large number of diagrams based on the results obtained are given, supplying the desired dimensions for a lead absorber with different $E_{\gamma max}$ (50, 85 and 300 Mev). There are 7 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR im. A. F. Ioffe, Leningrad (Physicotechnical Institute AS USSR imeni A. F. Ioffe, Leningrad)

SUBMITTED: June 15, 1961 (initially)
October 30, 1961 (after revision)

Fig. 2. Energy leakage as a function of the absorber diameter. Legend: The curves 1 to 5 refer to the ray diameter of 20, 35, 45, and 80 mm.

KOMAR, A.P., akademik; KRUGLOV, S.P.; LOPATIN, I.V.

Determining the sensitivity of a quantimeter for the energy range of 15 to 300 Mev. Dokl.AN SSSR 145 no.2:309-311 Jl '62. (MIRA 15:7)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR. Akademiya nauk Ukrainskoy SSR (for Komar).
(Radiation--Measurement)