

BR. JON, R.

The 20 type trailer truck. Inz stavby 12 no.10: Suppl: Mechanizace  
no.10: 167 '64.

ZACEK, K.; ADAM, E.; ADAMOVA, V.; BURIAN, V.; REZACOVA, D.; SKRIDLOVSKA, E.;  
VANECKOVA, N.; VONKA, V.

Vaccination with live poliomyelitis vaccine (Sabin). Virological  
and serological control of mass vaccinations performed in the  
Czechoslovakian SSR during 1958-59 and in 1960. Cas.lek.cesk.  
102 no.46:1257-1268 N°63.

1. Ustav epidemiologie a mikrobiologie v Praze (reditel prof.  
dr. K.Raska, DrSc.) a Ustav ser a ockovacich latek v Praze  
(reditel MUDr.J.Malek).

\*

26

A new method for the processing of resin. A. Skagan and V. Verner. *Lesokhim. Prom.* 3, No. 4, 11-19 (1940); *Chem. Zentr.* 1940, II, 1049. With the usual method of treating resin the turpentine content is reduced from 30-31 to 16-18% with a strong oxidation of the resin acids taking place. The following improved method is recommended: Immediately after the crude resin is obtained it is warmed to 50-60° and stirred with turpentine to dil. it to a turpentine content of 27-30%. In the melted condition it is centrifuged and the impurities are washed with turpentine by centrifuging, which reduces their resin content to 0.02-0.08%. The resin is then crystd. as rapidly as possible (within 2-3 hrs.), after which it is again centrifuged and washed with water of 30-45°. The crystd. resin acids contain *d*- and *l*-pimaric acid and when prepd. in this manner are especially pure (turpentine content 50.8-1.0%). The yield is 80-90%. The liquid portion of the resin contains turpentine and oxidized resin acids and can be used for the diln. of the crude resin. In order to sep. the pure turpentine, this fraction is treated with 2.5-3% NaOH, which yields a turpentine contg. not more than 1-2% resin acids. M. G. Moore

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

16

Preparation of ethyl alcohol from mycologically harmed wood. A. I. Skriabin. *Izv. Akad. Nauk Beloruss. S.S.R.* 1948, No. 2, 105-113.—Rotted sawdust can be used for production of EtOH, since the cellulose of the spoiled sawdust is still capable of being saccharified. The rotten sawdust can be hydrolyzed under milder conditions than those needed for sound raw material. The yields in fermentation of the hydrolyzates may be even slightly higher; this indicates that during rotting the first loss occurs among the pentoses, leaving a higher percentage of fermentable hexoses.

G. M. Kosolapoff

SKRIGAN, A.I.

SKRIGAN A.I. AND VERNER V.S. "The effect of thermic turpentine removal on the chemical composition of tar-impregnated pine wood", Izvestiya akad. nauk BSSR 1948 no. 6 p. 161-66 Bibliog: 7 items

SC: U-3261 10, April 53. (Letopis 'Zhurnal 'Nykh Stasey No. 11 1949)

CA

26

Composition of turpentine from a swamp rosin 1000 years old. A. I. Skriyan. *Doklady Akad. Nauk S.S.S.R.* 80, 607-9(1951).—Turpentine isolated from the rosin matter secured from pine stumps that had been immersed in a peat bog for an estd. 1000 years is almost completely devoid of pinene, but does contain *p*-menthane and cymene; this indicates a hydrogenation-dehydrogenation process. Turpentine secured from such stumps contains alc. fractions, with some 50% of such material being found in the interior of the stumps. The alc. fractions contain some phenols, the remainder being substantially identical with the alc. fraction of common turpentines. Stumps found at great depths are devoid of rosin acids. G. M. K.

Skrigan, A.I.

✓ The hydrolytic saccharification of polysaccharides of plant by-products and the development of technological procedures for the improvement of the nutritional aspect of crude fodder. A. I. Skrigan, A. I. Kozlov, and V. S. Verner. *Izvest. Akad. Nauk Beloruss. S. S. R.* 1953, No. 8, 169-78; *Referat. Zhur. Khim., Biol. Khim.* 1955, No. 13878. — A study was made of the products of hydrolysis of the polysaccharides, manna, galactan, xylan, araban, etc. in plant materials normally used as crude fodder (straw and chaff of grain cultures, woody shoots, the stems and husks of corn, etc.). The hydrolysis was brought about with the aid of 0.2% HCl treatment of the material for 3 hrs. The quantity of easily hydrolyzed polysaccharides ranged between 17.74% in the sunflower stems and 46.33% of corn husks and 41.85% in wheat chaff. Equally wide variations were observed generally for the content of sugars in the hydrolyzates. B. S. L.

MD

(2)

Fuel Abst:  
Vol. 15 No. 4  
Apr. 1954  
Natural Solid Fuels:  
Sources and Properties

① fuel

✓ 2744. COMPOSITION OF FICHELITE OIL OBTAINED FROM DEEP TAR FORMATION OF PEAT DEPOSITS OF MILLENNIAL AGE, Skirgan, A.I. (Dokl. Akad. Nauk SSSR (Rep. Acad. Sci. U.S.S.R.), 1953, vol. 90, 395-398; abstr. in Chem. Abstr., 1953, vol. 47, 10204). Fichtelite oil from 500, 3000, and 140,000 year old tars was examined after extraction with ether from the primary tar. With increased age the content of rosin acids declines (from 34.6% to 0%), while the hydrocarbon content rises; retene (from 12.4 to 21.6%) and fichtelite (from 25.3 to 45%) in the 500-3000 year period. The oldest specimen had much petroleum ether-insoluble matter and contained no rosin acids and only traces of fichtelite and retene. Pure fichtelite, m. 46-47°,  $d_{20}^{20}$  0.938,  $n_D^{20}$  1.5052; retene, m. 99-100°,  $d_{20}^{20}$  1.1252,  $n_D^{20}$  1.7970; picrate, m. 123°; adduct with 1,3,5-trinitrobenzene, m. 139°; retenequinone, m. 197-197.5°. Examination of pine stumps from 20 to 3000 years old indicates that the acid components, just like terpenes, undergo isomerization and dehydrogenation and reduction, one mole of acid yielding 2 moles of fichtelite and 1 of retene. The primary tar acids decline with age and vanish at the 500 year level; abietic acid rises up to maximum at 50 years, then declines rapidly; pyroabietic acid reaches a maximum at 500 years. Fichtelite and retene continue to increase in concentration even at the 3000 year level. It is believed that sapinic and laevo-pimaric acids are converted to abietic acid, which yields tetrahydroabietic acid and dehydroabietic acid; the former yields fichtelite by loss of carbon dioxide, while retene forms similarly from the dehydroabietic acid, with additional loss of methane.

C.A.



*SKRIGAN, A.I.*

USSR/ Chemistry - Animal fodder

Card 1/1

Pub. 86 - 16/36

Authors : Skrigan, A. I., Cand. of Chem. Sc.

Title : Chemical-biological processing of raw fodder

Periodical : Priroda 2, 93-95, Feb 1954

Abstract : Chemical-biological methods of processing raw animal fodder for the purpose of increasing its nutritive value are described. Two USSR references (1939 and 1952). Drawing.

Institution : Acad. of Sc., Byeloruss-SSR, Institute of Chemistry

Submitted : .....

✓ Utilization of deeply buried fossil resinous wood for the manufacture of thermal-insulating board. A. I. Strigan, G. Reakin, V. J. Verner, and A. Kozlov. *Vestnik Akad. Nauk Belarus. S.S.R.* 1934, No. 2, 124-31. During the reclamation of swamps in Byelorussia approx. 200,000 cu. m. of deeply buried fossil wood is obtained each year. This wood has d. 0.450-0.535 and contains ash 0.74-0.89, resinous substances 17.02-21.80, turpentine 0.52-0.84, readily hydrolyzable polysaccharides 17.03, cellulose 48.00, and lignin 30.05%. The turpentine has  $d_4^{20}$  0.8309,  $n_D^{20}$  1.4572,  $\alpha_D^{20}$  5.36, and viscosity at 20° 0.0130 poise. The manuf. of insulating board is described and the phys. and chem. properties of the board are given. During the course of manuf., when the wood pulp is heat-treated, part of the hemicellulose of the wood is hydrolyzed to hexoses, and these in turn undergo an oxidative degradation forming formic, acetic, propionic, and butyric acids. E. W.

SKRIGAN, A. I.

USSR/Chemistry - Chemical technology

Card 1/1      Pub. 22 - 27/47

Authors :      Skrigan, A. I.

Title :      ~~Chemical composition of wood pulp of a thousand-year-old pine~~  
Chemical composition of wood pulp of a thousand-year-old pine

Periodical :      Dok. AN SSSR 100/6, 1135-1137, Feb 21, 1955

Abstract :      Data are presented regarding the elementary and chemical composition of wood pulp derived from pines of various age. The results obtained from studying wood pulp of various age are described. Eleven USSR references (1934-1954). Table; graph.

Institution :      Academy of Sciences Byelorussian SSR, Institute of Chemistry

Presented by :      Academician B. A. Arbuzov, August 2, 1954

SKRIGAN, A.I.; SHISHKO, A.M.; ZHBANKOV, R.G.

Investigation of celluloses obtained from wood and flax waste.  
Dokl. AN BSSR 1 no.1:17-19 J1 '57. (MIRA 11:3)

1. Predstavleno akademikom AN BSSR B.V. Yerofeyevym.  
(Cellulose)

SKRIGAN, A.I.

Properties of  $\alpha$ -cellulose isolated from pulp of modern and interglacial pine woods. A. I. Skrigan, A. M. Shvachko, and R. G. Zibhenko. *Vestn. Akad. Nauk Belarus. S.S.R., Ser. Fiz.-Tekh. Nauk* 1957, No. 1, 29-45 (Russian summary).—Chem. and phys. properties were stud. for  $\alpha$ -cellulose, isolated from pinewood of ages, estd. from the time of felling, from 1 to 140,000 years (interglacial wood buried in peat bogs). The yields of bleached and unbleached crude cellulose were 40-48 and 38-44%, resp. The yield decreased with age; from the interglacial wood only 15-25% unbleached cellulose was obtained. The yield of  $\alpha$ -cellulose ranged from 86% after 1 year to 92.55% after 100-500 years on the wt. of unbleached crude cellulose. The  $\alpha$ -cellulose was nitrated, acetylated, and denteriated. The amts. of OH in  $\alpha$ -cellulose, of ONO<sub>2</sub> in nitrocellulose, and of Ac in cellulose acetate decreased from the time of felling the pinewood; isotopic study showed also a decrease of OD groups. Most of the CO<sub>2</sub>H groups form H bonds (infrared spectra), the greatest amts. of which were found in  $\alpha$ -cellulose from wood one year after felling. In general, with increasing time, the amt. of C increased and the amts. of H and O and N decreased. The amt. of CH<sub>2</sub> groups (infrared spectra) also increased; this indicates that the transformation of carbohydrates into cyclic compds. occurs not only during the growth of the plants but also in the peat. 30 references. E. Wierzbicki.

4  
1-453d  
1-454b

11/2

20-1-31'54

AUTHOR SKRICAN, A.I., SHISHKO, A.M., ZHBANKOV, R.G.,

TITLE The Properties of  $\alpha$ -Cellulose Obtained from Thousand Years Old Fossil Pine Wood.  
(O svoystvakh  $\alpha$ -tsellyulozy, vydelennoy iz iskopayemoy drevesiny sosny tysyacheletnogo vozrasta -Russian)

PERIODICAL Doklady Akad.Nauk SSSR, 1957, Vol 115, Nr 1, pp 114 - 117 (U.S.S.R.)

ABSTRACT The production of cellulose and hemicellulose from pine trunks of peat-bogs is of practical importance, especially for the Belorussian SSR. The investigation of cellulose obtained from wood of various ages; (from 1 to 140,000 years old) facilitates the disclosure of processes of chemical transformations which took place at relatively low temperatures in the course of many thousand years and were not complicated by any foreign factor. The investigation of terpenes, resinous acids and the wood of thousand years old pines showed that with aging hydrogenation and dehydrogenation processes take place inside the plant tissue, analogous to such a catalysis by Zelinskiy. Processes of decarboxylation and the splitting off of side-chains of the molecules take place at the same time. The dehydration processes and the disproportioning of hydrogen lead to the formation of resinous acids of hydrocarbons. From the carbonhydrat part of the wood carbocyclic compounds develop. For an investigation of the transformation of  $\alpha$ -cellulose as dependent on age also were used physical methods besides chemical ones, especially infrared spectroscopy. The celluloses were obtained by the sulphate method.  $\alpha$ -cellulose was isolated by treatment of bleached and non-bleached cellulose with 17% NaOH solu-

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The Properties of  $\alpha$ -cellulose Obtained from Thousand Years Old Fossil Pine Wood. 20-1-31/54

tion. The content of  $\alpha$ -cellulose is highest in 100-150 year old celluloses, lowest in young ones (1 month to 1 year). After 150 years its content decreases. The interglacial periods contain 88%, and contain the least alkali-soluble substances. Thus, the young celluloses have the most homogeneous composition, the inter-glacial ones the most heterogeneous one. From the table it may be seen that the carbon content slightly increases with increasing age, the content of oxygen and hydrogen decreases. Ill. 1 shows the spectra of  $\alpha$ -celluloses obtained from pine wood. A comparison of the value of the coefficient  $K$  in the sphere  $\sim 3\mu$  for celluloses of various age shows that the number of hydroxyls is highest in the youngest, i.e. the June- $\alpha$ -cellulose. With increasing age this number slightly decreases. The decrease of the number of hydroxyls in the inter-glacial  $\alpha$ -cellulose is not connected with the occurrence of a double bond  $C=C$ . An intensive band at  $3333\text{ cm}^{-1}$  occurs in all spectra of all ages. This indicates that most of the hydroxyls participate in the hydrogen bond, to the highest degree in the youngest celluloses. Further  $\alpha$ -cellulose nitrates were produced. Table 2 shows that the degree of polymerization of  $\alpha$ -celluloses decreases with age. The spectral analysis of nitro- $\alpha$ -celluloses of various ages confirms the fact that the number of nitro groups is highest in those that are 1 year old. The 100 years old ones contain about the same amount. Considerably less is contained in interglacial cellulose. The  $\alpha$ -cellulose produced from pine wood of

Card 2/3

SKRIGAN, A.I.; MURASHKEVICH, T.V.

Properties of lignin removed from petrified pines thousands of years  
old. Dokl. AN BSSR 2 no.7:308-310 Ag '58. (MIRA 11:10)

1. Predstavleno akademikom AN BSSR B.V.Yerofeyevym.  
(Lignin) (Trees, Fossil)



Skrigan, A. and others.

Heat decomposition of briquettes of wood-hydrolytic lignin. p. 109.

BIOLOGICHESKAIA NAUKA: SELSKOMU I LASNOMU SKOZIAISTVU. (Latvijas PSR Zinatnu akademijs. Biologijas Zinatnu nodala) Riga, Latvia, no. 16, 1958. In Russian.

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

(SKRIGAN, A.I.; SHISHKO, A.M.; ZHBANKOV, R.G.

Composition of cellulose extracted from the wood of swamp pine  
stumps. Sbor. nauch. rab. Inst. fiz.-org. khim. AN BSSR

no. 7:110-125 '59.

(MIRA 14:4)

(Cellulose)

SKRIGAN, A.I.

Study of pine stumps, waste products of peat works, and preparation  
of chemicals and building materials from them. Sbor. nauch. rab.  
Inst. fiz.-org. khim. AN BSSR no. 7:126-140 '59. (MIRA 14:4)  
(Pine)

SKRIGAN, A.I.; MURASHKEVICH, T.B.

Properties of lignin extracted from pine wood of different ages. Sbor.  
nauch. rab. Inst. fiz.-org. khim. AN BSSR no. 7:150-158 '59.

(MIRA 14:4)

(Lignin)

SKRIGAN, A.I.; BELEN'KAYA, T.V.

Change in the carbohydrate composition of pine wood as a function of  
age. Sbor. nauch. rab. Inst. fiz.-org. khim. AN BSSR no. 7:159-173  
'59. (MIRA 14:4)

(Pine) (Carbohydrates)

STEPANOV, E.I., akad.; SHISHLO, A.N.; SHISHLO, A.N.; SHAPANOV, R.G.

Bonding between cellulose and substances associated with it in plant tissue. Dokl. Akad. Nauk SSSR 135 no.3:624-626 N '60. (MIRA 13:12)

1. Institut fiziki Akademii nauk BSSR i Institut fiziko-organicheskoy khimii Akademii nauk BSSR. 2. Akademiya nauk BSSR (for Stepanov).  
(Cellulose)

SKRIGAN, A. I. [Skryhan, A. I.]; BELEN'KAYA, T. V.; SHISHKO, A. M.  
[Shyshko, A. M.]; AFONSKAYA, I. A.

Investigation of low-ash sapropels from the swamps and lakes of the  
White Russian S.S.R. Part 1. Investigation of the carbohydrate con-  
tents of some kinds of low-ash sapropels. Vestsi AN BSSR. Ser. fiz.-  
tekh. nav. no.3:75-83 '61. (MIRA 14:10)  
(White Russia--Sapropels)

BARDYSHEV, I.I.; SKRIGAN, A.I.; ROMAN, L.V.; KOST'YANOVA, S.S.

Chemical composition of dry-distilled turpentine obtained from pine stumps which remained in peat deposits for a thousand years. Zhur. prikl. khim. 34 no.2:440-445 F '61. (MIRA 14:2)

1. Belorusskiy lesotekhnicheskiy institut imeni S.M.Kirova i Institut fiziko-organicheskoy khimii AN BSSR.  
(Turpentine)



SKRIGAN, A.I. [Skryhan, A.I.]; SHISHKO, A.M. [Shyshko, A.M.];  
ZHEANKOV, R.G. [Znbankou, R.H.]

Action of caustic soda on cellulose. Vestsi AN BSSR. Ser.  
fiz.-tekh. nav. no.4:61-67 '62. (MIRA 18:4)



ZHIBANOV, R.G. [Zelbankov, R.H.]; GARIN, N.I. [Harbrz, M.I.]; S'ISHKO, A.M.  
[Shyshko, A.M.]; SKRIGAN, A.I. [Skryhan, A.I.]; BUGAYEOK, A.A.  
[Buhailonak, A.A.]

Infrared spectra of celluloses of different origin and age. Vestsi  
AN BSSR. Ser. fiz.-tekh. nav. no.4:43-47 '64. (MIRA 18:3)

ZHBANKOV, R.G. [Zhbankou, R.N.]; GARBUIZ, N.I. [Harbuz, M.I.]; SKRIGAN, A.I.  
[Skryhan, A.I.]; SHISHKO, A.M. [Shyshko, A.M.]

Infrared spectra of celluloses of different origin and age. Part 3.  
Cellulose from pulp of different age. Vestsi AN BSSR. Ser.fiz.-mat.  
nav. no.2:95-98 '65. (MIRA 19:1)

S/081/61/000/021/090/094  
B107/B147

AUTHORS: Osipenko, F. G., Belen'kaya, T. V., Skrigan, Ye. A.

TITLE: Study of the carbohydrate composition of hemicelluloses of sulfite and sulfate viscose cellulose

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 21, 1961, 469, abstract 21P208 (Dokl. AN BSSR, v. 5, no. 4, 1961, 159-162)

TEXT: The authors give investigation results of the carbohydrate composition and optimum conditions for the hydrolysis of hemicelluloses separated from centrifuged lyes in mercerization of sulfite and sulfate cellulose at the Mogilevskiy zavod iskusstvennogo volokna (Mogilev Plant of Synthetic Fibers). [Abstracter's note: Complete translation.]

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Card 1/1

YAPPOV, A.V.; HILFMAN, N.B.; YEREMIN, Ye.F.; SKRIGAN, Ye.A.

Activity of copper and chromium salts on the catalytic activity of  
Vanadyl AN 600B. Ser.khim.mos. no. 000-000  
(Vol. 18:12)  
15.

SKRIGANOV, A. R.

K-6

USSR/Optics - Spectroscopy.

Abs Jour : Referat Zhur - Fizika, No 3, 1957, 7808

Author : Korostyleva, L.A., Skriganov, A.R., Yashin, N.M.

Inst :

Title : Hyperfine Structure of Spectral Lines and of Spins of  
Nuclei U<sup>233</sup> and Pu<sup>238</sup>.

Orig Pub : Izv. AN SSSR, ser. fiz., 1955, 19, No 1, 31-34

Abstract : See Referat Zhur Fizika, 1956, 5367.

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- 75 -

*SKRIMOV, B.F.*  
KUZNETSOV, A.V.; LAPIDUS, M.A.; LEKOMTSEV, A.S., SKRIMOV, B.F., SHELEST,  
P.S. BERGAUZ, P.I., redaktor; GUREVICH, M.M., tekhnicheskii re-  
daktor.

[Composite crews on collective farms] Kompleksnye proizvodstvennye  
brigady v kolkhozakh. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1956.172 p.  
(MLRA 10:6)

(Collective farms)



VINGRIS, Laymonis Teodorovich; SKRIN, Yuriy Aleksandrovich; POPOV, P.A.,  
red.; SHIROKOVA, M.M., tekhn. red.

[Designs of polyphonic electronic musical instruments for construction by amateur] Liubitel'skie konstruktsii mnogogolosnykh elektro-muzykal'nykh instrumentov. Moskva, Gos. energ. izd-vo, 1961. 71 p.  
(Massovaia radiobiblioteka, no.407) (MIRA 14:10)  
(Musical instruments, Electronic)

SKRINAK, Andrej

Simplification of the records of material. Podn org 18 no.9:425  
S '64.

SKRINIAR, J.

Conference on hard facing in welding high-speed steel, repairing tools, and weld-on processes, p. 85, ZVARANIE (Ministerstvo hutneho prumyslu a rudnych bani a Ministerstvo strojarstva) Bratislava, Vol. 3, No. 3, Apr. 1954

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 4, No. 12, December 1955

SHRINIA, J.

A proposal for standardized designation of welding electrodes. p. 126.

Vol. 5, no. 1, 1956  
ZVAROČSKÝ SBORNÍK  
Bratislava, Czechoslovakia

Source: East European Accession List. Library of Congress  
Vol. 5, No. 3, August 1956

SKRINIAR, J.

18 18  
Welding of Castings made from Stainless Steels of the  
2412 Cr-Ni Type. J. Skrinjar. (Zvaranie, 1958, 5, (5),  
150-155). [In Slovak]. The technology of welding and weld-  
testing is discussed in detail.—P. F.

SKRINIAR, Jan, inz.; MAKOVICKY, Vl., inz.

New machinery and apparatus at the exhibition of Soviet National  
Economy Achievements in Moscow. Zvaranie 11 no.12:329-331 D  
'62.

SKRINIAR, Jan, inz. CSc; BACO, E,vin, inz.

International welders' conference on light structures in the  
German Democratic Republic. Zvaranie 13 no.3:91-92 Mr'64

1. Welding Research Institute, Bratislava.

SKRINIAR, Jan, inz. CSc.

Usability of electrodes for surfacing case-hardening elements.  
Zvaranie 14 no.1:6-11 Ja '65.

1. Research Institute of Welding, Bratislava.





SKRIN-CHE. AKO, ALL

21(4) PHASE I BOOK EXPLOITATION 80V/2714

International Conference on the Peaceful Uses of Atomic Energy. 2nd, Geneva, 1958

Doklady sovetskikh uchenykh; Yadernye goruyushye i reaktornye metalli. (Reports of Soviet Scientists; Nuclear Fuel and Reactor Metals) Moscow, Atomizdat, 1959. 670 p. (Series: Isa; Trade, vol. 3, 6,000 copies printed.

M. (Title page): A.A. Bocharov, Academician, A.P. Vinogradov, Academician, V.S. Yemel'yanov, Corresponding Member, USSR Academy of Sciences, and A.P. Zaitsev, Doctor of Technical Sciences; Ed. (Inside book): V.V. Pavlovskiy and G.M. Pchelintsev; Tech. Ed.: E.I. Masel'.

FOREWORD: This volume is intended for scientists, engineers, physicists, and biologists working in the production and peaceful application of atomic energy; for professors and where the subject is taught; and for people interested in atomic science and technology.

CONTENTS: This is volume 3 of a 5-volume set of reports on atomic energy presented by Soviet scientists at the Second International Conference on the Peaceful Uses of Atomic Energy, held in Geneva from September 1 to 13, 1958. Volume 3 consists of two parts. The first part, edited by A.I. Zubov, is devoted to geology, prospecting, concentration and processing of nuclear source material. The second part, edited by G.L. Zverev, includes 27 reports on metallurgy, metallography, processing technology of nuclear fuels and reactor metals, and neutron irradiation effects on metals. The titles of the individual papers in each case correspond word for word with those in the official English language edition on the Conference proceedings. See 80V/2881 for the titles of the other volumes of this set.

Ushkin, A.I., G.A. Ivanovskiy, G.B. Glushko, I.V. Mitnikov, V.A. Polikarpov, and M.B. Tikhonovskiy. Paragenetic Associations of Hydrothermal Uranium Minerals - in Uranium Deposits of the Soviet Union (Report No. 2201) 110

Gerasimov, A.I., S.G. Kapulin, G.A. Volter, A.K. Lititsin, and V.S. Serbrennikov. Some Regularities of Uranium Distribution in Underground Waters (Report No. 2499) 134

New Data on Uranium Minerals in the USSR (Report No. 2060) 160

Gerasimov, A.I., M.Y. Kravchenko, A.I. Mitnikov, M.M. Nikolov, I.M. Koshchikov, G.A. Kapulin, and S.P. Tikhonov. Some Theoretical and Methodical Problems of Radiometric Prospecting and Survey (Report No. 2905) 193

Bolshakov, Iu. P. The Gamma-ray Examination Method for Classifying Anomalous in Radioactivity (Report No. 2295) 218

Kordis, G.A., and M.A. Strizhenko. Some Problems of Radiometric Uranium Ore Concentration (Report No. 2061) 227

Card 4/11

SKRINJAR, B.

SKRINJAR, B., dr. (Ljubljana)

Health statistics in Great Britain. Narodno zdrav. 10 no.4:  
115-119 1954.

(VITAL STATISTICS

\*Gt. Brit.)

SKRINJAR, Boga

Public health in Slovenia in the light of preventive medicine.  
Zdrav. vest., Ljubljana 24 no.9-10:354-358 1955.

1. Centralni higienski zavod - direktor Dr. Marijan Ahcin.  
Oddelek za zdravstveno statistiko - nacelnik Dr. Boga Skrinjar.

(PUBLIC HEALTH,  
in Slovenia, prev. med. (S1))  
(MEDICINE, PREVENTIVE,  
in Slovenia, relation to public health (S1))

*Trampuz, Boga*

Source (in copy); Given Name

Country: Yugoslavia

Academic Degrees: [not given]

Affiliation:

Source: Ljubljana, Zdravstveni Vestnik, Vol XXX, No 1-2, 1961, pp 6-12

Data: "Epidemiological Aspects of Puerperal Mastitis."

Authors:

TRAMPUZ, Vladimir, Clinic for Gynecology and Obstetrics (Klinika za Ginekologijo in Porodnistvo) of the Faculty for General Medicine and Stomatology (Fakultet za Splosno Medicino in Stomatologijo), Ljubljana; Director (Predstojnik): Prof Dr F Novak

OZEMIC-TRAMPUZ, Lea (Presumed: same affiliation as for V. Trampuz)  
SKRINJAR, Boga, Central Hygienic Institute (Centralni Higijenski Zavod), Ljubljana; Director (Predstojnik): Dr M Ahcin

LIKAR, Miha, Microbiological Institute (Mikrobioloski Institut) of the Faculty for General Medicine and Stomatology, Ljubljana; Director: Prof Dr M Valentincic

SKRINJAR, Bozena, Dr.

Inquiry as an important activity of the antituberculosis ambulatory; results of the inquiry on the life of tuberculotics in Trbolje. Tuberkuloza, Beogr. 7 no.4:270-285 July-Aug 55.

(TUBERCULOSIS, PULMONARY, economics,  
living cond. of tuberculotics in Yugosl. (Ser))

SKRINNIIK, M.R.; LIKHOTINSKAYA, M.V.; OCHERET, A.M.

Case of Macracanthorhynchus infection in man. Med. paraz. i paraz. bol.  
27 no.4:450-451 J1-Ag '58. (MIRA 12:2)

1. Iz parazitologicheskogo otдела Pereyaslavl' -Khmel'nitskoy rayonnoy i  
Kiyevskoy gprpdskey sanitarno-epidemiologicheskoy stantsiy i Pereyaslavl'-  
Khmel'nitskoy mezhrayonnoy veterinarnoy bakteriologicheskoy laboratorii.

(NEMATODE INFECTIONS, case reports,  
Macracanthorhynchus hirudinaceus (Rus))

BOLONOV, N.I., inzh.; KOLOVANDIN, B.A., inzh.; POVKH, I.L., doktor  
tekhn. nauk, prof.; SKRIBNIK, Ye.F., inzh.

Study of the structure of magnetohydrodynamic currents using  
an induction-type anemometer. Izv. vys. ucheb. zav.; energ.  
9 no.1:65-71 Ja '66. (MIRA 19:1)

1. Donetskii gosudarstvennyi universitet i Donetskii nauchno-  
issledovatel'skiy institut chernoy metallurgii. 2. Chlen-  
korrespondent AN UkrSSR (for Povkh). Submitted September 17, 1965



L 38992-66 EWT(1)/EWP(m)/T-2 IJP(c)

ACC NR: AP6016910

SOURCE CODE: UR/0143/66/000/001/0065/0071

AUTHOR: Bolonov, N. I. (Engineer); Kolovandin, B. A. (Engineer); Skrinnik, Ye. F. (Engineer); Povkh, I. L. (Corresponding member AN UkrSSR, Doctor of technical sciences, Professor)

ORG: Donetsk State University (Donetskiy gosudarstvennyy universitet); Donetsk Scientific-Research Institute of Ferrous Metallurgy (Donetskiy nauchno-issledovatel'skiy institut chernoy metallurgii)

TITLE: Investigation of the structure of magnetohydrodynamic flows by an induction anemometer

SOURCE: IVUZ. Energetika, no. 1, 1966, 65-71

TOPIC TAGS: anemometer, MHD flow, high temperature instrument

ABSTRACT: The article is devoted to a description of an instrument for investigating the structure of magnetohydrodynamic flows, an induction anemometer. The principles of measuring the local velocity by the induction methods are given. The object of the investigation was a flow of a conduction fluid with a free surface situated in a comparatively strong magnetic field. The basic components of the experimental device were the liquid system, magnetic field source, and measuring equipment. The experiments carried out showed that the investigation of the advantages of the induction method of measuring the characteristics of turbulence

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UDC: 621.032 ÷ 621.3.082.78

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ACC NR: AP6016910

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and the design features of the induction anemometer which the authors used proved to be quite fruitful and offered considerable possibilities for a thorough investigation of the structure of MHD flows at sufficiently high Hartmann numbers. With the appropriate amplifying and measuring equipment the instrument on the whole is simple and reliable in operation. The obvious advantages of this instrument are: the possibility of investigating the structure of the flows of both ordinary and Newtonian fluids in a wide range of frequencies and its noninertia. A change of velocity fluctuation almost instantly causes a change of the induced emf. Finally, the design of the sensor permits a rigorous separation of the signals induced by various components of the fluctuating velocity. Orig. art. has: 6 figures and 13 formulas.

SUB CODE: 20/ SUBM DATE: 13Sep65/ ORIG REF: 002/ OTH REF: 002

Card

2/2/5

SKRINNIKOV, Yu.

SINEL'NIKOV, N.; GOL'BETS, M.; PICHKOV, K.; DRAUSAL', A.; NERBASOV, V.  
SKRINNIKOV, Yu.; POGOSTKIN, S.; GARAYEV, V.; SMIRNOV, V.;  
MINOSYAN, I.

Useful details. Za rul. 15 no.5:insert p.12-14 My '57. (MIRA 10:6)  
(Automobiles)

ACCESSION NR: AP4017963

S/0236/63/000/004/0069/0075

AUTHORS: Stasyulyavichyus, Yu. K.; Samoshka, P. S.; Skrinska, A. Yu.;  
Survila, V. Yu.

TITLE: Thermophysical studies of a staggered smooth pipe bundle in  
cross flow of compressed air

SOURCE: AN LitSSR. Trudy\*. Seriya B, no. 4, 1963, 69-75

TOPIC TAGS: pipe, smooth, thermodynamics, heat exchange, heat trans-  
fer, aerodynamics, thermodynamics, bundle, Reynolds number, aerody-  
namics

ABSTRACT: The study has been prompted by the fact that the problem  
of heat exchange of a pipe bundle in an air flow at high Re numbers  
is not yet completely solved, thus making calculations difficult.  
Therefore, tests were made in the translitecate first Laboratory of  
Nuclear Power Engineering and Radioisotopes of the AN, Lithuanian  
SSSR covering heat transfer and aerodynamic resistance of staggered  
smooth pipe bundles in a cross flow of air in the range of  $Re > 10^5$ .  
The methods and the experimental installation for tests in air flow

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ACCESSION NR: AP4017963

at a 25 bars pressure are described. The results of the experimental study for a seven-row bundle  $a \times b = 2.2 \times 1.3$  in a cross air flow at  $Re$   $10^4$  to  $1.5 \times 10^6$  are presented. Graphs are plotted and criterial dependences for the calculation of heat transfer and aerodynamical resistance of the first and the depth row at a steady state heat operation are given. It is found that at  $Re = 2 \times 10^5$ , the flow around the bundle acquires a new character involving increased turbulence and intensified heat transfer (increase in  $Re$  index from 0.6 to 0.81 in the front row and to 0.83 in depth row). At this  $Re$  value the transitional operation changes into the auto-modeling type. Orig. art. has: 3 figures, 9 formulas

ASSOCIATION: Institut energetiki i elektrotekhniki AN Litovskoy SSR  
(Institute of Power Engineering and Electrotechnics, AN Lithuanian SSR)

SUBMITTED: 09Feb63

DATE ACQ: 13Mar64

ENCL: 00

SUB CODE: PH

NR REF SOV: 002

OTHER: 000

2/2

Card

SKRINSKA, A.Yu.; STASYULYAVICHYUS, Yu.K. [Stasiulevicius, J.]

Experimental study of the effect of the irregularity of the heat transfer coefficient on the efficiency of ribbed pipes. Trudy AN Lit. SSR. Ser. B no.1:123-128 '65. (MIRA 18:7)

*ENERGETICS & ELECTRICAL ENGINEERING*  
1. Institut energetiki i elektrotehniki AN Litovskoy SSR.  
*Kaunas*

14-00000-65 FWT(m)/EPA(m)-2/EWA(m)-2 Pab-10 IdP(c) GS

ACCESSION NR: AT5007321

S/0000/64/000/000/0274/0287 <sup>76</sup><sub>64</sub>  
B+1

AUTHOR: Bayyer, V. N.; Blinov, G. A.; Bondarenko, L. N.; Yerozolimskiy, B. G.;  
Korobovnikov, L. S.; Mironov, Ye. S.; Naumov, A. A.; Onuchin, A. P.; Panasyuk,  
V. S.; Popov, S. G.; Sidorov, V. A.; Sil'vestrov, G. I.; Skrinitskiy, A. N.;  
Khabakhpashev, A. G.; Auslender, V. L.; Kiselev, A. V.; Kushnirenko, Ye. A.;  
Liyshits, A. A.; Rodionov, S. N.; Synakh, V. S.; Yudin, L. I.; Abramyan, Ye. A.;  
Vasserman, S. B.; Vecheslavov, V. V.; Dimov, G. I.; Papadichev, V. A.; Protopopov,  
I. Ya.; Budker, G. I.

TITLE: Colliding electron-electron, positron-electron, and proton-proton beams

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963.  
Trudy. Moscow, Atomizdat, 1964, 274-287

TOPIC TAGS: high energy interaction, high energy plasma, particle physics, particle beam, charged particle beam

ABSTRACT: In the Institute of Nuclear Physics, Siberian Department, Academy of Sciences SSSR, programs on high-energy particle physics are mainly concerned with work on colliding charged particle beams. The Institute considers it unsuitable

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ACCESSION NR: AT5007921

for its purpose to install huge accelerators whose construction requires large resources outlaid and long time. For work on colliding electron-electron, positron-electron, and proton-proton beams, three installations are being built, which are in various stages of readiness. Work on colliding electron beams was conducted at the institute (then a laboratory of the Institute of Atomic Energy named I. V. Kurchatov) in the Fall of 1956, after Kerst's report on accelerators with colliding proton beams of the FFAG type. By that time Soviet scientists had already acquired some experience in obtaining large electron currents; in particular, the mentioned laboratory had installed and then abandoned a device for the spiral storage of electrons (G. I. Budker and A. A. Naumov, CERN Symposium, 1, 76 (1956)), by which, subsequently, circulating currents of the order of 100 amperes were obtained. In 1957 two variants of this device were considered at the same time. The first one consisted of two accelerators with spiral storage and subsequent transition of the particles to synchrotron state in comparatively narrow paths. The second one had storage rings with constant magnetic field and frequent external injection because of the damping of the oscillations under the action of radiation. The first variant was more cumbersome; the second variant contained an element not developed at that time, namely a 100-kilovolt commutator of 10 kilo-amperes with nanosecond front. At the end of 1957, the first positive results were obtained

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ACCESSION NR: AT5007921

with a packing discharger of 100 kilovolts, and work stopped on the variant with storage rings. Originally it was proposed to set up two devices: VEP-1 of  $2 \times 130$  Mev energy, and VEP-2 of  $2 \times 500$  Mev energy. The VEP-1 was considered as an actual model of an accelerator and as a device for conducting initial experiments at low energies. After the Panofsky report in 1958 on his work with colliding electron beams conducted in his laboratory at Stanford, construction ceased on 500-Mev storage paths and work was continued on the  $2 \times 130$ -Mev installation. Instead of work on colliding electron beams with energies of 500 Mev, work at the end of 1958 was conducted with colliding positron-electron beams and the planning of the VEPP-2 device was begun, whose main elements are a strong-current electron accelerator and a high-vacuum storage path of 700 Mev energy. At the present time the VEP-1 and VEPP-2 are installed in Novosibirsk. The VEP-1 is in a state of neglect, but at the end of 1964 experiments will be begun with it. Installation of the VEPP-2 has been completed. To obtain a marked effect from the application of colliding proton beams, an accelerator is needed with an energy of at least 10 Gev. Since the ordinary accelerator at such energies is a very bulky machine, it was decided to combine the idea of colliding proton beams with the creation of an iron-less impulse accelerator with very large fields and a neutralized central busbar. This latter work of creating such a machine was reported by the authors at a Moscow conference

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ACCESSION NF: AT5007921

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held in 1956. The presence of a field with two directions in an iron-less accelerator with central busbar permits the acceleration of protons toward opposite sides in one machine, which makes possible the collision of protons in case of a suitable race-track. At the present time the Institute is developing a proton device with a magnetic field of about 200 kilogauss and radius of 2 meters for a particle energy of 12 Gev in the beam (equivalent energy is around 300Gev). Tests are being conducted on models, and an effective method of injection by overcharging of negative ions is under study. Also under development are an impulse electric power supply system of 100 million joules capacity and an hf power supply. Since 1958 the Institute has been conducting theoretical investigations on the limits of applicability of quantum electrodynamics [V. N. Bayyer, ZhETF, 37, 1490 (1959), and UFN, 78, 619 (1962)] for the calculation of the radiational corrections to the electrodynamic cross-sections [V. N. Bayyer and S. A. Kheyfets, ZhETF 40, 613-715 (1961) and Nuclear Physics (in print)], and on other problems of high-energy particle physics that are connected with the preparation of experiments on colliding beams [V. N. Bayyer, I. B. Khriplovich, V. V. Sokolov, and V. S. Synakh, in ZhTF, 1961]. The present report takes up under the mentioned three main headings the following pertinent topics: the accelerator-injection, storage paths, electron-optical channel,

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ACCESSION NR: AT5007921

input and output system, experiments on storage, proposed work, experimental set-up, physical layout of magnets, power supply, etc. Orig. art. has: 8 figures.

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Institute of Nuclear Physics,  
SO AN SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: EE, NP

NO REF SOV: 012

OTHER: 003

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Card 5/5

L 4237-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS  
 ACCESSION NR: AT5007979 S/0000/64/000/000/1065/1072 51  
 841

AUTHOR: Abramyan, Ye. A.; Bender, I. Ye.; Rondarenko, L. N.; Budker, G. I.;  
Glagolev, G. B.; Kadymov, A. Kh.; Neshkov, I. N.; Naumov, A. A.; Pal'chikov, V.  
Ye.; Panasyuk, V. S.; Popov, S. G.; Protopopov, I. Ya.; Rodionov, Yu. I.;  
Samoylov, I. M.; Skrinskiy, A. N.; Yudin, L. I.; Kon'kov, N. G.; Mostovoy, Yu. A.;  
Nezhevenko, O. A.; Ostreyko, G. N.; Petrov, V. V.; Sokolov, A. A.; Timoshin, I. Ya.

TITLE: Work on the strong-current accelerators of the Nuclear Physics Institute,  
 SO AN SSSR. (I) Strong-current pulse accelerators with spiral storage of the elec-  
 trons. (II) Strong-current accelerators with one-revolution capture of the in-  
 jected electrons

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy.  
 Moscow, Atomizdat, 1964, 1065-1072

TOPIC TAGS: high energy accelerator, electron accelerator, electron beam, betatron,  
 plasma

ABSTRACT: The work on developing strong-current electron ring accelerators  
 was begun in 1965 by the authors at the Nuclear Physics Institute, Siberian Depart-  
 ment, Academy of Sciences SSSR, with the object of studying the possibility of

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ACCESSION NR: AT5007979

forming relativistic stabilized beams. In the laboratories of the Institute experimental studies were carried out on the four methods for obtaining large ring currents of relativistic electrons: (1) spiral method of storing the electrons in installations of the betatron type with subsequent betatron synchrotron acceleration (Budker G. I. CERN Symposium 1, 68 (1956); (2) obtaining of limiting electron currents by means of the injection of electrons from a strong-current linear accelerator into a ring chamber of large aperture with subsequent synchrotron acceleration; (3) storage of electrons in tracks (parking orbits) with constant magnetic field by means of the multiple injection of electrons from another less strong-current accelerator; this method is utilized for the storage of electrons and positrons in experiments with colliding beams (expounded in detail by G. I. Budker in the present collection, p. 274); (4) obtaining of large electron currents by means of the acceleration of electrons by a ring plasma. The present report discusses the first two methods under the following topics: (I) pulsed iron-less betatron with preliminary charge storage (B-2 device); strong-current pulsed synchrotron B-2S; pulsed strong-current betatron with spiral storage (B-3 device). (II) iron-less one-turn strong-current synchrotron (BSB); strong-current pulsed synchrotron B-3M. Orig. art. has: 7 figures.

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L 4237-66

ACCESSION NR: AT5007979

ASSOCIATION: Institut yadernoy fiziki SO AN SSSR (Nuclear Physics Institute,  
SO AN SSSR)

SUBMITTED: 26May65

ENCL: 00

SUB CODE: NP.

NO REF SOV: 001

OTHER: 001

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Card 3/3

E 05822-67 SMT(m) IJI(c) GD

ACC NR: AT6031467 SOURCE CODE: UR/0000/65/000/000/0001/0014

AUTHOR: Budker, G. I. ; Kushnirenko, Ye. A. ; Skrinskiy, A. N. ; Naumov, A. A. ;  
Onuchin, A. P. ; Popov, S. G. ; Sidorov, V. A. ; Pumaykin, G. M.

ORG: none

TITLE: Present state of research on the VEP-1 electronic storage ring

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut yadernoy fiziki. Doklady, 1965.  
Sostoyaniye rabot na elektronnom nakopitele VEP-I, 1-14

TOPIC TAGS: synchrotron, electron scattering, electron beam/VEP-1 electronic storage ring, B-2C electronic synchrotron

ABSTRACT: The VEP-1 electronic storage ring consists basically of two paired high-vacuum magnetic tracks, 43 cm in radius, with a  $3 \times 4 \text{ cm}^2$  aperture a special B-2C electronic synchrotron, an electronic-optic channel, and a single thread system to extract the electron beam from the accelerator and insert it into the storage ring. This storage ring was designed for experiments in electron scattering with electrons of an energy of  $2 \times 130 \text{ Mev}$ . It is now being used in

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L 05822-67

ACC NR: AT6031467

experiments with electron scattering in a 45—90 degree angle. Descriptions are given of the installation, the process of electron storage, and radiance measurements. The results of the first experiments on electron scattering show that divergences from the reference curve of the Moller electron scattering do not exceed the statistical error. Orig. art. has: 8 figures.

SUB CODE: 09, 20/ SUBM DATE: none/ ORIG REF: 005/

kh

Card 2/2



L 25792-66 EWT(m) IJP(c)

ACC NR: AP6016376

SOURCE CODE: UR/0089/65/019/006/0498/0502

AUTHOR: Budker, G. I.; Kushnirenko, N. A.; Naumov, A. A.; Onuchin, A. P.;  
Popov, S. G.; Sidorov, V. A.; Skrinskiy, A. N.; Tumaykin, G. M.

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E

ORG: none

TITLE: Status report on the VEP-1 electron storage ring

SOURCE: Atomnaya energiya, v. 19, no. 6, 1965, 498-502

TOPIC TAGS: electron scattering, synchrotron, electron energy/B-25 synchrotron  
 ABSTRACT: This paper updates the report given at the International Conference on Accelerators held in Dubna in 1963 and describes the work carried out since that time. In the last two years the following work has been accomplished: accumulation of electrons simultaneously on two paths, study of certain interaction effects between two beams, and measurement of the luminance of the machine from the electron-electron scattering in the range of angles from 45 to 90 deg. The VEP-1 storage ring, designed to operate at electron-electron energy of 2 X 130 Mev, is connected to a B-25 synchrotron, as shown in a schematic diagram. The magnetic paths are 43 cm in dia and the aperture is 3 X 4 cm. All experiments were made at electron energies of 43 Mev and resonator voltage of 5 kv. The average injection current pulse did not exceed 10 ma, although more than 100 ma were available. Injection mode stability left much to be desired. Results of the experiments are shown in a series of graphs. Further experiments are planned at electron energies of 100 Mev. Orig. art. has 8 figures.  
 SUB CODE: 20 / SUBM DATE: none / ORIG REF: 005 [JPRS]  
 Card 1/1 CL

2

L 25793-66 EWT(m) IJP(c)

ACC NR: AP6016377

SOURCE CODE: UR/0089/65/019/006/0502/0505

AUTHOR: Auslender, V. L.; Blinov, G. A.; Budker, G. I.; Karliner, M. M.; Kiselev, A. V.; Livshits, A. A.; Mishnev, S. I.; Naumov, A. A.; Panasyuk, V. S.; Pestov, Yu. N.; Sidorov, V. A.; Sil'vestrov, G. I.; Skriskiy, A. N.; Khabakhashev, A. G.; Shekhtman, I. A. 56 B

ORG: none

TITLE: Status report on the VEPP-2 positron-electron storage ring

SOURCE: Atomnaya energiya, v. 19, no. 6, 1965, 502-505

TOPIC TAGS: electron positron pair, electron interaction, synchrotron, electron scattering, luminescence, betatron/B-3M synchrotron

ABSTRACT: The VEPP-2 was designed for electron-positron interaction experiments at energies of 2 X 700 Mev. as reported in the "Proceedings of the International Conference on Accelerators", Dubna, 1963. Work accomplished in the two years following that conference includes the following: start-up of the synchrotron 19 injector, accumulation of large electron currents in the storage ring, study of instability related to the interaction of the beam with the resonator, and the accumulation of positrons. At present the VEPP-2 is being used to study the interaction of two beams and to measure the luminescence from the small-angle positron-electron scattering. An over-all schematic diagram of the VEPP-2 is shown, including its connection to a B-3M synchrotron. The latter operates in light-duty mode at 200 Mev, and its 100 ma output pulse is shorter than 20 nsec. Its energy scattering is less than 2% and pulse repetition frequency is about 3 cycles. The storage ring is a weakly focussing racetrack with four identical rectilinear segments 60 cm long. The equilibrium orbit radius is 150 cm and the aperture is 2

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L 25793-56

ACC NR: AP6016377

8 X 14 cm. One segment of the ring is the experimental working section; the opposite section is a resonator; the remaining two are used to inject electrons and positrons. The experiments made and the operation of the equipment are described in detail. It is noted with interest that when betatron oscillations are excited by individual inflector pulses, most of the initial oscillation amplitude decays in a time interval much shorter than the natural radiation decay time. Orig. art. has: 4 figures. [JPRS]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 006 / OTH REF: 001

Card 2/2 CC

L 07055-67 EWT(1) I P(2) AT

ACC NR: AP6021623

(N)

SOURCE CODE: UR/0089/66/020/003/0217/0220

AUTHOR: Derbenev, Ya. S.; Mishnev, S. I.; Skrinskiy, A. N.

ORG: none

TITLE: Effects of electromagnetic interaction of particles with a colliding plasmoid

SOURCE: Atomnaya energiya, v. 20, no. 3, 1966, 217-220

TOPIC TAGS: plasmoid acceleration, betatron accelerator, synchrotron, storage ring, plasma electron oscillation

ABSTRACT: The authors investigate the influence of the electromagnetic field of the colliding plasmoid on the betatron oscillations of particles of a small plasmoid. The differential equations are written out for the one-dimensional oscillations of a particle periodically acted upon by a colliding plasmoid of given configuration, and the effect of various initial conditions is discussed. Special attention is paid to effects due to nonlinearity of the transverse component of the field of the colliding plasmoid. The conditions under which resonances appear are derived and effects corresponding to given resonances are approximately evaluated. The influence of parasitic equilibrium orbits is taken into account. Instability due to the action of the plasmoids on the synchrotron oscillations is shown to be important for electron-electron systems but not for electron-positron systems. Orig. art. has: 3 figures and 13 formulas.

SUB CODE: 20/ SUBM DATE: 22Nov65/ ORIG REF: 004

UDC: 621.384.612.4

Card 1/1 vmb

10

L 05821-67 EWT(m) IJP(c) GD  
 ACC NR1 AT6031468 SOURCE CODE: UR/0000/65/000/000/0001/0012  
 AUTHOR: Auslender, V. L.; Blinov, G. A.; Budker, G. I.; Karliner, M. M.;  
Kiselev, A. V.; Livshits, A. A.; Mishnev, S. I.; Naumov, A. A.; Panasyuk, V. S.;  
Pestov, Yu. P.; Sidorov, V. A.; Sil'vestrov, G. I.; Skrinskiy, A. N.; Khabakh-  
pashev, A. G.; Shekhtman, I. A.

ORG: none

TITLE: Present state of research on the VEPP-2 electron-positron ring

SOURCE: AN SSSR, Sibirskoye otdeleniye. Institut yadernoy fiziki. Doklady, 1965.  
Sostoyaniye rabot na pozitron-elektronnom nakopitele VEPP-2, 1-12

TOPIC TAGS: electron, positron, electron positron storage ring, electron beam  
 /B-3M synchrotron, VEPP-2 electron-positron, steradian

ABSTRACT: The VEPP-2 electron-positron storage ring was designed for  
 experiments on the interaction of positrons and electrons with an energy of up to  
 2 x 700 Mev. It is basically a special type of B-3M synchrotron and is equipped  
 with an exterior injector, a high-vacuum storage track, a single thread system to  
 extract the electron beam from the accelerator and insert it into the storage ring.

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L 05821-67

ACC NR: AT6031468

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It has electron-optic channels and a converter to transform an electron beam into a positron beam. It now works at an energy of 200 Mev. Basic studies of the process of insertion into the storage ring were made at an energy of 100 Mev. A detailed description is given of the installation and storage of electrons and positrons. A system of spark chambers, comprising a  $2 \times 0.7$  solid angle steradian close to the vertical direction, was prepared for experiments on the interaction of positrons and electrons. Efforts are now being made to increase the accumulation speed of positrons. Orig. art. has: 4 figures.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 001/

kh

Card 2/2

L 07063-67 ENT(m) IJP(c)

ACC NR: AF6021621

(N)

SOURCE CODE: UR/0089/66/020/003/0210/0213

AUTHOR: Auslender, V. L.; Karliner, M. M.; Naumov, A. A.; Popov, S. G.; Skrinikov, A. N.; Shekhtman, I. A.

ORG: none

TITLE: Phase instability of an intense electron beam in a storage ring

SOURCE: Atomnaya energiya, v. 20, no. 3, 1966, 210-213

TOPIC TAGS: storage ring, electron beam, automatic stabilization equipment, phase modulation, electron accelerator/ VEPP-2 storage ring

ABSTRACT: The authors consider radial-phase self-oscillations in storage rings at large beam currents. Conditions for the stability are obtained in the case of arbitrary frequency characteristics of the accelerating system. It is shown that stability conditions derived in earlier studies, stating that it is sufficient to tune the accelerating resonator to a frequency somewhat lower than the generator frequency in order to prevent self excitation of phase oscillations at arbitrarily large beam currents, are not borne out in practice, and that other factors must be taken into account in a more rigorous stability analysis. Allowance is also made for the interaction between the beam and the accelerating system and other elements of the vacuum chamber at harmonics of the electron-bunch revolution frequency. Some results of an experimental investigation of self excitation of phase oscillations in the storage rings of the Institute of Nuclear Physics of the Siberian Department of AN SSSR are

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UDC: 621.384.60

L. 07063462

ACC NR: AP6021621

presented (VEPP-2). An example where the instability due to the eighteenth harmonic was eliminated is described. The authors thank G. I. Budker for continuous interest and B. A. Lazarenko, A. A. Litvinov, I. K. Sedlyarov, T. P. Starodubtseva, Ye. A. Pirushkin, and G. M. Tumaykin for help with the experiments. Orig. art. has: 5 figures and 14 formulas.

SUB CODE: 20/ SUBM DATE: 22Nov65/ ORIG REF: 004/ OTH REF: 001

Card 2/2 LC



L 07064-67 EWT(m) IJP(c)

ACC NR: AF6021622

(N)

SOURCE CODE: UR/0089/66/020/003/0213/0217

AUTHOR: Auslender, V. L.; Kulipanov, G. N.; Mishnev, S. I.; Naumov, A. A.; Popov, S. G.; Skriskiy, A. N.; Tumaykin, G. M.

ORG: none

TITLE: Experimental data on the interaction of beams during collision

SOURCE: Atomnaya energiya, v. 20, no. 3, 1966, 213-217

TOPIC TAGS: <sup>ELECTRON BEAM</sup> electron collision, storage ring, positron/ VEP-1 storage ring, VEPP-2 storage ring

ABSTRACT: The authors present a preliminary review of results of beam collision effects, obtained with the VEP-1 (electron-electron) storage ring and the VEPP-2 (positron-electron) storage ring. The installations and the main parameters of the beams in the storage rings are presented elsewhere (Atomnaya energiya, v. 19, 498 and 502, 1965; E. I. Zinin et al., present source, p. 220 [Acc. Nr. AF6021624]). Most of the data pertain to the VEP-1 storage ring at colliding beam energies of 43 Mev. The data presented include the diagram of resonances in the working region of the magnetic field; photographs of different spreading effects in the beams, the distribution of the densities of the particles in one beam with and without the collisions with the other beam, the dependence of the electron lifetime on the revolution frequency and on the colliding-beam current, and the dependence of the partial electron lifetime on various factors. The phenomena in the VEPP-2 storage ring were essential.

Card 1/2

UDC: 621.384.612.4

L 07064-67

ACC NR: AP6021622

ly similar to those in the VEP-1. Orig. art. has: 8 figures.

SUB CODE: 20/      SUM DATE: 22Nov65/      ORIG REF: 003

Card 2/2 LC

L 07062-67 EWT(m) LJP(c)		4	
ACC NR: AF6021624		(N)	SOURCE CODE: UR/0089/66/020/003/0220/0223
AUTHOR: <u>Zinin, E. I.</u> ; <u>Korobeynikov, L. S.</u> ; <u>Kulipanov, G. N.</u> ; <u>Lazarenko, B. L.</u> ; <u>Matveyev, Yu. G.</u> ; <u>Popov, S. G.</u> ; <u>Skrinskiy, A. N.</u> ; <u>Starodubtseva, T. P.</u> ; <u>Tumaykin, G. M.</u>			
ORG: none			
TITLE: Control and regulation system for the electron beam parameters in the <u>VEP-1</u> electron-electron storage ring			
SOURCE: Atomnaya energiya, v. 20, no. 3, 1966, 220-223			
TOPIC TAGS: electron beam, electron accelerator, storage ring, plasmoid acceleration, synchrotron radiation			
ABSTRACT: The authors describe briefly the main systems used for different stages of adjustment and physical research of the VEP-1 assembly, first described by G. I. Budker et al. (Atomnaya energiya v. 19, 498, 1965). The parameters investigated were the magnitude of the injected current, the angular divergence and transverse dimensions of the beam, its energy and energy spread, and the position and angle at the exit from the electron-optical channel. The number of injected particles and the phase difference between the input and output were measured with lead probes. The first revolutions of the captured current were observed by recording the synchrotron radiation with a photomultiplier. The captured and stored currents were also measured with the aid of the synchrotron radiation. The radial position of the orbits was controlled either by regulating their radii by changing the frequency of the accelerating			
Card 1/2		UDC: 621.384.6	

L 07062-67

ACC NR: AP6021624

8

voltage or by producing azimuthal modifications of the magnetic field with additional turns. The positions of the orbits at the collision location were roughly monitored by means of an optical television system, and more accurately by a remotely controlled diaphragm located at the place of encounter. The systems used to measure the luminosity, to control the radial and azimuthal positions of the plasmoids, to determine the phase dimensions of the plasmoids, and to monitor and study various coherence effects are briefly described. The lifetime of the beam was monitored continuously with a special electronic system which determined the logarithmic derivative of a signal proportional to the current in the track. Orig. art. has: 6 figures.

SUB CODE: 20/ SUBM DATE: 22Nov65/ ORIG REF: 001/ OTH REF: 001

Card

2/2x

SKRINSKIY, Yu.M., inzh.; KAMBULOV, V.A.

Comments on I.A. Raitskin's article. Prom. stroi. 39 no. 1:60-62  
'61. (MIRA 14:1)

(Gutters)

(Roofing, Concrete)

SKRINSKIY, Yu.M., inzh.

Elements of a building made of reinforced-concrete panels in an  
earthquake area. Bet. i zhel.-bet. 8 no.3:105-109 Mr '62.  
(MIRA 15:3)  
(Precast concrete construction) (Earthquakes and building)

SKRINSKIY, Yu.; <sup>M</sup>KUKEBAYEV, M., kand.tekhn.nauk

Unified frame for public buildings in earthquake districts.  
Zhil. stroi. no.7:10-12 '62. (MIRA 15:9)

1. Glavnyy inzhener masterskoy instituta Kazgorstroyproyekt  
(for Skrinskiy).

(Earthquakes and buildings)

NAUMOV, A.; GARVARDT, V., konstruktor; SKRINSKIY, Yu. <sup>m</sup>inzh.

Design and construction of large-panel apartment houses. Zhil.  
stroi. no.8:9-11 '62. (MIRA 15:9)

1. Glavnyy arkhitektov proyektov instituta Kazgorstroyproyekt  
(for Naumov).

(Alma-Ata--Apartment houses)  
(Precast concrete construction)



SKRINTAR, J.

Renovtion of gear wheels ty hard facing. p. 338  
Welding boilers in the USSR. p. 345  
ZVARANIE Vol. 4, No. 11, Nov. 1955  
Czechoslovakia

SOURCE: EAST EUROPEAN LISTS Vol. 5, No. 7 July 1956

PHASE I BOOK EXPLOITATION

SOV/4163

Moscow. Tsentral'nyy aero-gidrodinamicheskiy institut

Shumoglusheniye (Noise Suppression) Moscow, Oborongiz, 1959. 128 p.  
(Series: Promyshlennaya aerodinamika, sbornik, no. 14) Errata slip  
inserted. 1,100 copies printed.

Ed. (Title page): Ye. Ya. Yudin; Ed. (Inside book): A. S. Ginevskiy,  
Candidate of Technical Sciences; Ed. of Publishing House: T. A.  
Valedinskaya; Tech. Ed.: N. A. Pukhlikova; Managing Ed.: A. S.  
Zaymovskaya, Engineer.

**PURPOSE:** This collection of articles is intended for engineers, technicians,  
and scientific workers specializing in industrial aerodynamics and  
noise suppression of aerodynamic installations.

**COVERAGE:** The collection contains papers on problems associated with noise  
suppression of aerodynamic installations. The subjects covered include:  
the basic parameters of noise suppressors, jet noise, the aerodynamic  
noise of rotating rods, noise suppressors for large ventilating systems,  
and methods used in accustical research. No personalities are mentioned.  
All articles but one are accompanied by references most of which are  
Soviet.

Card 1/3

Noise Suppression

SOV/4163

TABLE OF CONTENTS:

1. Yudin, Ye. Ya. Calculation of the Basic Parameters of Noise Suppressors for Aerodynamic and Gasdynamic Installations 3
2. Munin, A. G., and B. K. Skripach. Approximate Calculation of the Noise of a Free Gas Jet 17
3. Borshchevskiy, I. Ya., I. A. Grafskiy, and Ye. Ya. Yudin. Investigation of the Effect of Density of the Medium on the Level and Spectrum of the Aerodynamic Noise of Rotating Rods 22
4. Filippova, R. D. Investigation of Noise Suppressors for Large Ventilating Installations 33
5. Yudin, Ye. Ya., K. G. Chikin, and A. G. Munin. Natural Dampers With Loose-Material-Type Absorbers 43
6. Skripach, B. K. Investigation of the Effect of an Airflow on Free Lying Granular Material 47

Card 2/3

ACCESSION NR: AP4041414

S/0179/64/000/003/0021/0028

AUTHOR: Belotserkovskiy, S. M.; Skripach, B. K.; Tabachnikov, V. G.

TITLE: Determining rotary resistance derivatives in wind tunnels

SOURCE: AN SSSR. Izv. Mekhanika i mashinostroyeniye, no. 3, 1964, 21-28

TOPIC TAGS: resistance derivatives, rotary derivatives, rotary resistance derivatives, wind tunnel test

ABSTRACT: Some special features of experiments determining the rotary resistance derivatives for steady or damped harmonic oscillation of a model at a constant average stream velocity and small oscillation amplitude are discussed. Rotary resistance derivatives of aerodynamic forces and moments are determined analytically from experimentally established relationships between aerodynamic loads acting on the model and kinematic parameters of the model's motion. The cases of oscillation of a model with a rigid coupling (dynamometric method), when kinematic parameters of model motion do not

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ACCESSION NR: AP4041414

depend on acting forces, and of oscillation with elastic coupling (kinematic method), when these parameters depend on acting forces, are analyzed. Two alternatives of the kinematic method, the method of forced vibrations and the method of free vibrations, are also analyzed. Data of experimental investigations of rotary and translational oscillation of a model of a rectangular wing at subsonic speeds by dynamometric and both kinematic methods are compared in diagrams with results of theoretical analysis obtained by the linear theory, showing a fair agreement among all methods. Orig. art. has: 5 figures and 25 formulas.

ASSOCIATION: none

SUBMITTED: 14Feb64

ATD PRESS: 3056

ENCL: 00

SUB CODE: ME

NO REF SOV: 003

OTHER: 001

Card 2/2

L 21795-65 FS(m)/EWT(1)/EWP(m)/EWG(v)/T-2/FCS(k) Pd-1/Pe-5 AFWL/AEDC(a)/  
SSD/ASD(f)-3/AFTC(a)

ACCESSION NR: AP5002603

S/0179/64/000/005/0140/0141

AUTHOR: Belotserkovskiy, S. M. (Moscow); Skripach, B. K. (Moscow);  
Tabachnikov, V. G. (Moscow)

TITLE: Determining unsteady aerodynamic properties of cones

SOURCE: AN SSSR. Izvestiya. Mekhanika i mashinostroyeniye, no. 5,  
1964, 140-141

TOPIC TAGS: subsonic flow, rotary resistance derivative, resistance  
derivative, rotary resistance derivative coefficient, flow over cone,  
thin wing linear theory

ABSTRACT: The results of an experimental investigation of the co-  
efficients of rotary resistance derivatives of aerodynamic forces  
and moments for sharp-nosed cones at low subsonic speeds are pre-  
sented. The experiments were carried out on a dynamometric test  
bench with a rigid coupling. The cone was subjected to harmonic  
torsional vibrations about the transverse z-axis at an angular fre-  
quency  $\rho$  and amplitude  $\alpha^*$ . The experimental data obtained for cones  
are compared with data obtained by applying linear theory to delta  
wings. The results showed that rotary resistance derivatives are

Card 1/2

FEDIAYEVSKIY, K.K., doktor tekhn.nauk; SKRIPACH, B.K., kand.tekhn.nauk

Efficient use of flaps on activated lateral fins for the stabilization of ships. Sudostroenie 30 no.1:8-9 Ja '64. (MIRA 17:3)

SKRIPACH, T. K.

PA 18784

USSR/Chemistry - Systems, Ternary  
Chemistry - Solubility

Jun 1946

"Solubility Studies in the Ternary System: Ethyl  
Alcohol-Water-Vinylidene Chloride," T. K. Skripach,  
M. I. Temkin, 4 pp

"Zhur Fiz Khim" Vol XX, No 6

CH<sub>2</sub> was derived from heating C Cl<sub>2</sub> to 31.5 degrees at  
760 mm pressure. Ethyl alcohol, with boiling tempera-  
ture of 78.5 degrees at 760 mm, and twice-distilled  
water were used. Diagrams of equipment and tables of  
results. Investigation of the ternary system (CCl<sub>2</sub>  
alcohol, water at 20 degrees) produced a binodal and  
a system of nodes.

18784



SOV/79-28-6-45/63

AUTHORS: Baranayev, M. K.; Zinov'yev, Yu. M.; Skripach, T. K.;  
Soborovskiy, L. Z.

TITLE: The Synthesis of Organophosphorus Compounds From Hydrocarbons  
and Their Derivatives (Sintez fosfororganicheskikh soye-  
dineniy iz uglevodorodov i ikh proizvodnykh) VIII. The In-  
vestigation of Oxidation of Phosphorus trichloride With Oxygen  
(VIII. Izucheniye okisleniya trekhkhloristogo fosfora kislo-  
rodom)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1628-1631  
(USSR)

ABSTRACT: There are, in fact, very few papers dealing with the oxida-  
tion of phosphorus trichloride with oxygen. Only Remsen (Rem-  
zen) points to the possibility of oxidizing this chloride  
with ozonized oxygen. A patent is mentioned (Ref 9) in which  
the "combustion" at 150° of a gas mixture of  $\text{PCl}_3$  and oxy-  
gen is described (molar ratio 2 : 1). The observations made  
by the authors show that the oxidation of phosphorus tri-  
chloride as well as that of the compounds synthesized from  
it, which correspond to the formula  $\text{XPCl}_2$  (where X=chlorine,

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SOV/79-28-6-45/63

The Synthesis of Organophosphorus Compounds From Hydrocarbons and Their Derivatives. VIII. The Investigation of Oxidation of Phosphorus trichloride With Oxygen

aryl- and alkyl radicals, alkoxyl-, dialkylamine- and other monovalent organic groups) with a single passage of gaseous oxygen or air can be obtained by means of the mentioned reagents. Earlier the assumption was made that the oxidation chlorophosphination as well as the oxidation of phosphorus trichloride have radical character. According to this assumption in the oxidation of phosphorus trichloride first the binding of oxygen to this substance takes place. The formed compound can be either regarded as biradical ( $\text{Cl}_3\text{POO}\cdot$ ) or as bipolar ion ( $\text{Cl}_3\text{POO}^+\text{POO}^-$ ):  $\text{PCl}_3 + \text{O}_2 \longrightarrow \text{Cl}_3\text{POO}\cdot$ . This adduct converts immediately with a second molecule  $\text{PCl}_3$  and forms phosphoroxychloride:  $\text{Cl}_3\text{POO}\cdot + \text{PCl}_3 \longrightarrow 2\text{POCl}_3$ . When a hydrocarbon (RH) is present in the reaction mixture it can be included in the reaction. The biradical  $\text{Cl}_3\text{POO}\cdot$  forms the organic radical  $\text{R}\cdot$  and the radical  $\text{OH}\cdot$ :  $\text{Cl}_3\text{POO}\cdot + \text{RH} \longrightarrow \text{POCl}_3 + \text{R}\cdot + \text{OH}\cdot$  on the occasion of the collision with the molecule RH. Either of these radicals can lead to the formation of the chlorine anhydrides of the corresponding alkanephosphinic acids. The initial stage of the oxidation of phosphorus tri-

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SOV/79-28-6-45/63  
The Synthesis of Organophosphorus Compounds From Hydrocarbons and Their  
Derivatives. VIII. The Investigation of Oxidation of Phosphorustrichloride  
With Oxygen

chloride with oxygen is a heterogeneous process dependent on the velocity of solution of the oxygen. The oxidation velocity of phosphorus trichloride with gaseous oxygen does in no case depend on the temperature. The activation energy of this oxidation is very small which fact points to the assumed free-radical character of this process. There are 4 figures and 11 references, 10 of which are Soviet.

SUBMITTED: May 29, 1957

1. Phosphorus chlorides--Oxidation

Card 3/3

L 60954-65 EWT(1)/EWA(j)/EWT(m)/EPF(c)/EWP(j)/T/EWA(b)-2 Pc-4/Pr-4 RO/RM

ACCESSION NR: AP5011678

UR/0195/65/006/002/0196/0202

541.124

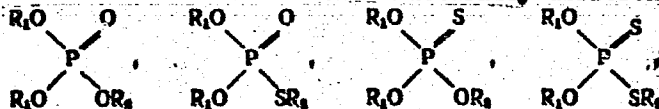
AUTHORS: Anikiyenko, K. A.; Skripach, T. K.; Baranayev, M. K.; Rodionova, N. P. (Deceased)

TITLE: The reactivity of ester derivatives of phosphoric and thionphosphoric acids with cholinesterase and hydroxyl ions

SOURCE: Kinetika i kataliz, v. 6, no. 2, 1965, 196-202

TOPIC TAGS: cholinesterase, insecticide, phosphoric acid, thionphosphoric acid, reaction kinetics, reaction mechanism, inhibition catalyst

ABSTRACT: Quantitative studies of the reaction ability of ester derivatives of phosphoric and thionphosphoric acids (FOS) were carried out in order to extend the currently available information on the inhibiting effect of phosphorganic insecticides on cholinesterase (Ch). Rate constants, activation energies, and preexponential factors for the reactions of a number of structurally different FOS in the general form of



Card 1/2 where  $\text{R}_1 = -\text{CH}_3, -\text{C}_2\text{H}_5, -\text{C}_3\text{H}_7$ ;  $\text{R}_3 = -\text{C}_2\text{H}_5, -\text{C}_2\text{H}_5\text{SCH}_3$  or  $-\text{C}_2\text{H}_5\text{SC}_2\text{H}_5$

L 60954-65

ACCESSION NR: AP5011678

with Ch and OH ions were studied. The inhibition rate constants were determined from the relationship  $k_i = \frac{0.692}{t_{0.5} \cdot [FOS]}$ , where  $t_{0.5}$  is the time required to destroy one half of the original Ch, and  $[FOS]$  is the initial concentration of FOS. The pseudomonomolecular hydrolysis rate constants were determined from the relationship  $K_1 = \frac{2.3}{t} \cdot (2 - \lg a)$ , where  $t$  is the time and  $a$  the percentage concentration of unreacted FOS. The second order rate constants were determined from  $K_{II} = \frac{K_1}{(OH)} = \frac{K_1}{0.025}$ . The reaction mechanism is explained as a nucleophilic substitution of  $S_N2$ , after J. Dostorovsky and H. Halmann (J. Chem. Sec., 516, 1955). The kinetic characteristics were found to change with change in the structure of FOS. The authors thank V. A. Yakovlev for helpful advice concerning the inhibition mechanism of cholinesterase. Orig. art. has: 1 table and 3 equations.

ASSOCIATION: none

SUBMITTED: 21Feb63

ENCL: 00

SUB CODE: OC,  
GC

NO REF SOV: C06

OTHER: 015

Card 2/2

SKRIPACHEV, M.

Finding potentialities for the increase of labor productivity  
in the plastics industry. Biul.nauch.inform; trud i zar.plata  
no.8:6-9 '59. (MIRA 13:1)  
(Plastics industry--Labor productivity)

VISHNEVSKIY, I.I.; FRENKEL', A.S.; SKRIPAK, V.N.

Heat conductivity of chrome spinelide. Fiz. tver tela 5 no.9:  
2691-2697 S '63. (MIRA 16:10)

1. Ukrainskiy nauchno-issledovatel'skiy institut ogneuporov, Khar'kov.

ACCESSION NR: AP4038903

S/0131/64/000/005/0227/0231

AUTHORS: Vishnevskiy, I. I.; Skripak, V. N.

TITLE: Thermal conductivity of refractories containing graphite

SOURCE: Ognoupyr\*, no. 5, 1964, 227-231

TOPIC TAGS: refractory, graphite refractory, thermal conductivity, thermal electromotive force, grain orientation, platinum-rhodium thermocouple, transformer LATR 1, stabilizer SN 0.75, potentiometer P 306

ABSTRACT: An experimental device for testing thermal conductivity of graphite-containing refractories was constructed by the UNIIO (Ukrainian Scientific Research Institute of Refractories). Its design, based on the common cylindrical shell method, is shown in Fig. 1 on the Enclosures. Provisions are made for testing cylindrical samples 55 mm in diameter and 180 mm long with a central opening 16 mm in diameter. A spiral heater consisting of EI-626 wire wound around a corundum tube was placed in the central opening, insulated by asbestos and light chamotte. Electric power was supplied by a transformer LATR-1 from the regulator SN-0.75. All measurements were taken at temperatures up to 1150C with platinum-rhodium thermo-

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ACCESSION NR: AP4038903

couples placed as shown in Fig. 2 of the Enclosures. Thermal conductivity coefficients were determined at 100-degree intervals in the temperature range 700-1100C and were calculated according to the formula:

$$\lambda = \frac{Q \ln \frac{r_2}{r_1}}{2\pi l \Delta t}$$

where: Q - radial stream of heat generated per unit of time by a heater section with the length  $l$ ,  $\Delta t$  - temperature difference between the points  $r_1$  and  $r_2$ .

Maximum theoretical error varied from 6-8%. Thermoelectromotive force was measured (accuracy to 0.001 mv) with a P-306 potentiometer and a mirror galvanometer ( $10^{-7}$  v/mm). The results showed that thermal coefficients of graphite were different in the directions parallel and perpendicular to the direction of material pressing. This was explained by the grain orientation originating in the process of pressing. To increase the thermal conductivity of a graphite-containing refractory lining the thermal flux should progress perpendicular to the direction of pressing. This would produce an approximate 40% increase in the conductivity. If the thermal flux must proceed parallel to the pressing direction, an attempt

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ACCESSION NR: AP4038903

should be made to obtain a fine texture of refractory material during its production and thus to increase its  $\lambda_{||}$ . The experimental specimens were presented, and some of their indexes were determined by I. P. Safronova. Orig. art. has: 2 tables, 5 figures, and 1 formula.

ASSOCIATION: Ukrainskiy nauchno-issledovatel'skiy institut ogneporov (Ukrainian Scientific Research Institute of Refractories)

SUBMITTED: 00

DATE ACQ: 05Jun64

ENCL: 02

SUB CODE: MM

NO REF SOV: 009

OTHER: 002

Card 3/5

ACCESSION NR: AP4038903

ENCLOSURE: 01

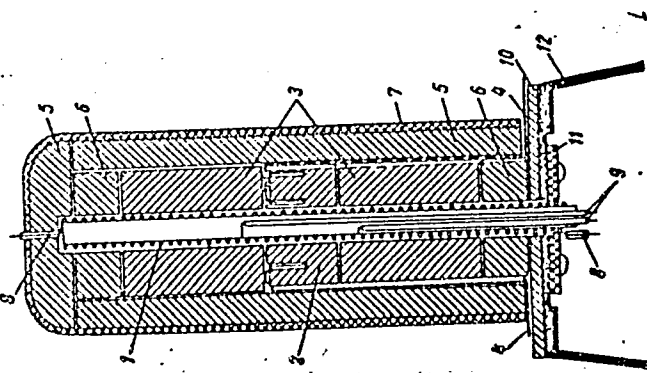


Fig. 1. Device for measuring thermal conductivity coefficient:  
1- heater; 2- sample; 3- prop and extension pieces; 4- thermocouple terminals; 5- thermal insulation; 6- rings of ultralight material; 7- asbestos; 8- heater points; 9- potentiometer outlets; 10- asbestos-cement lining; 11- clamp; 12- metal base.

Card 4/5

ACCESSION NR: APL038903

ENCLOSURE: 02

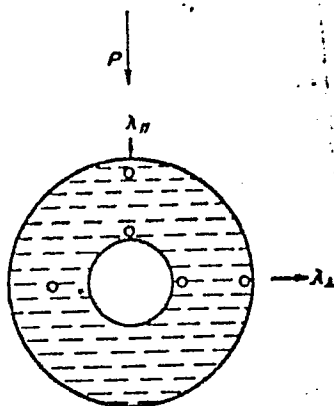


Fig. 2. Section of a sample and the distribution of openings for thermocouple for the determination of  $\lambda_{\perp}$  and  $\lambda_{\parallel}$ .

$P$  - direction of stress in pressing; dotted lines show particle orientation in the sample.

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