

S/032/61/027/002/022/026  
B124/B201

AUTHORS: Arbuzov, G. A., Kuznetsov, A. R., and Pavlov, N. N.

TITLE: Apparatus for the titration of dark-colored solutions

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 2, 1961, 225-226

TEXT: A special apparatus (see Fig.) has been worked out for those cases in which it is difficult to establish exactly the color changes in the point of equivalence in the presence of intensely colored admixtures or when the color change of the indicator in the end point of reaction is not sufficiently clear. A certain volume of the analyzed, dark-colored solution is poured into the 250-500 ml round and flat-bottom flask 1 which rests upon the electromagnetic mixer 2. The titration takes place by intensive mixing, and, if necessary, also by heat treatment. A parallel beam from light source 3 is passed through the titrated solution, and forms a colored spot 5 on the screen 4. The end point of titration is determined by the clear change of the color spot, which is by far better observable compared with ordinary illumination. Contrasts can be accentuated in the color change of the spot by way of color shifting, which

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Apparatus for the...

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is brought about by placing an appropriate light filter 6 in the path of the light beam. Thus, e.g., it is suitable to use a blue filter for the transition from red to yellow, whereby the color changes from violet to green, which is visually easier to detect. When the color change of the spot is masked by admixtures, color shifting can be attained either by illuminating the spot on the screen by a secondary light source or by means of a colored screen. In the latter case, the color of the filter or of the screen is complementary to the color of the masking admixtures. If, e.g., the admixtures are blue, filter or screen must be yellow. No light from other light sources must hit the screen. The procedures described were applied by the authors to the trilonometric determination of trivalent chromium (Ref.1). The Trilon excess in the titration of chromium is bound by a nickel salt, whose excess is titrated with the same Trilon B solution in the presence of murexide. The color turns from yellow over orange, red, and red-violet to violet. The color change of the indicator is masked by the dark-blue color of the chromium complex. When using the apparatus and a blue light filter, the color of the spot on the white screen turns from yellow over red to pale blue. The latter color change is abrupt, which fact simplifies the visual determination

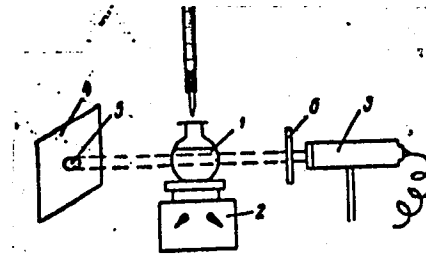
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Apparatus for the...

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of the end point of reaction, and reduces the error of the determination. The point of equivalence exactly corresponds to this transition. When using the device described it was possible to reduce the determination error from 5 to about 0.5%. The chromium content in the sample was 32.3 mg, and the Trilon consumption was 5.96 ml. [Abstracter's note: This is a full translation]. There are 1 figure, 1 table, and 1 Soviet-bloc reference.

ASSOCIATION: Moskovskiy tekhnologicheskoy institut legkoy promyshlennosti  
(Moscow Technological Institute of the Light Industry)



Card 3/3

PAVLOV, N. N., kand. tekhn. nauk; KUZNETSOV, A. R., inzh.

New method of trilonometric determination of chromium (III).  
Izv. vys. ucheb. zav.; tekhn. leg. prom. no. 4:46-48 '62.  
(MIRA 15:10)

1. Moskovskiy tekhnologicheskoy institut legkoy promyshlennosti.  
Rekomendovana kafedroy neorganicheskoy i analiticheskoy khimii.

(Chromium—Analysis)

CHESUNOV, V.M.; NAUMOV, V.N.; KUZNETSOV, A.R.; ARBUZOV, G.A.

Apparatus for gas chromatography in the artificial leather industry.  
Kozh.-obuv.prom. 5 no.10;25-29 0 '63. (MIRA 17:4)

L 12688-63 EWP(j)/EPF(c)/EAT(m)/BDS AFFIC/ASD Pc-4/Pr-4 RM/WW  
ACCESSION NR: AP3001599 3/0138/63/000/005/0051/0053

67  
66

AUTHOR: Kuznetsov, A. R.; Arbuzov, G. A.; Yezhova, T. I.

TITLE: Quantitative determination of metals in SKS-30-1 latex films

SOURCE: Kauchuk i rezina, no. 5, 1963, 51-53

TOPIC TAGS: latex, film, metal, polyvalent metal, oleic acid

ABSTRACT: A new method is proposed, based on the ready solubility of SKS-30-1 latex films in boiling oleic acid. Freshly cast films containing calcium chloride or magnesium chloride take only 10-15 minutes for complete dissolution, while 4-month old films, cast on barium chloride or chromium chloride, require 2-3 hours. After dilution with chlorobenzol, the solution is extracted with boiling 3N hydrochloric acid. The divalent metals are then determined by trilon titration at pH 10, chromium by trilon titration at pH 2-3, and aluminum by back titration with zinc chloride or by the dithizone method in acetone solution. Orig. art. has: 1 table.

Association: Moscow Technological Inst. of Light Industry

Card 1/1

KUZNETSOV, A.B., inzh.; PAVLOV, N.N., kand. tekhn. nauk; ARBUZOV, G.A.,  
doktor tekhn. nauk, prof.

Use of barium salts for ion precipitation from latexes of  
carboxylate rubbers. Izv. vys. ucheb. zav.; tekhn. leg. prom.  
no.2:55-59 '63. (MIRA 16:10)

1. Moskovskiy tekhnologicheskii institut legkoy promyshlennosti.  
Rekomendovana kafedroy tekhnologii iskusstvennoy kozhi i plenochnykh  
materialov.

PAVLOV, E.N., kand. tekhn. nauk, dotsent; KUZNETSOV, A.R., assistant.

Trilonometry of Chromium (III) and aluminum (III) mixtures.  
Nauch. trudy NIILP no.28:61-65 '63.

(MIRA 17:11)

1. Kafedra neorganicheskoy i analiticheskoy khimii Moskovskogo  
tekhnologicheskogo instituta legkoy promyshlennosti.



PAVLOV, N.N.; KUZNETSOV, A.R.

Trilonometric determination of  $\text{Cr}^{3+}$  and  $\text{Al}^{3+}$  present together.  
Zav. lab. 29 no.9:1059 '63. (MIRA 17:1)

1. Moskovskiy tekhnologicheskiy institut legkoy promyshlennosti.

ACCESSION NR: AP4038908

S/0138/64/000/005/0025/0028

AUTHORS: Kuznetsov, A. R.; Pavlov, N. N.; Arbuzov, G. A.

TITLE: The modifying effect of barium and chromium salts on the properties of carboxyl containing latex films

SOURCE: Kauchuk i rezina, no. 5, 1964, 25-28

TOPIC TAGS: latex film, carboxyl, barium, chromium, barium chromium fixation, tanned latex film, physicommechanical film property, latex SKS 30 1

ABSTRACT: Investigation of latex SKS-30-1 containing 20% solids and 4.23% free methacrylic acid was conducted. Films of this material were prepared in special molds lined with heavy kersy tissue impregnated with aqueous solutions of  $BaCl_2$  or  $CrCl_3$  and with a mixture of these salts in various proportions. The tissue was subsequently dried by a fan and an infrared lamp. Latex was poured into the molds to form layers of the desired thickness and was allowed to react for 90 seconds with the salts from the tissue lining. Next, the films were placed for one day on filter paper and heated for 50 minutes at  $140^\circ C$ . The water treatment of the

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ACCESSION NR: AP4038908

films consisted of rinsing them for 10 minutes in tap water and then heating them. The modifying effect of the polyvalent metal treatment was evaluated by changes which took place in the values of the relative equilibrium modulus of the film under a constant load of 8 kg sec/cm<sup>2</sup>. The Ba and Cr content of the films was estimated by the Trilon technique. Experiments with the effect of either BaCl<sub>2</sub> or CrCl<sub>3</sub> treatment at pH in the 3.8-11.2 range revealed a nonlinear increase of the modulus at the higher pH values. It was also found that while in the BaCl<sub>2</sub> treatment the time of the rinsing of the film did not affect the modulus value, an early rinse of the films treated with CrCl<sub>3</sub> affected it adversely. The tests involving the treatment of the films with mixed BaCl<sub>2</sub>-CrCl<sub>3</sub> solutions (in various ratios and at various pH values) showed generally higher values of the modulus with higher percentages of CrCl<sub>3</sub> and also with a higher pH. It was also determined that at a BaCl<sub>2</sub>:CrCl<sub>3</sub> ratio of 8:1 and a pH of 11.2 there occurs a significant drop in the modulus value. This the authors attributed to the formation of macrocrystalline structures in the films. The role of ions and their mobility in affecting the strength of the films are discussed. Orig. art. has: 4 charts.

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ACCESSION NR: APL038908

ASSOCIATION: Moskovskiy tekhnologicheskii institut legkoy promyshlennosti (Moscow  
Technological Institute of Light Industry)

SUBMITTED: 00

DATE ACQ: 05Jun64

ENCL: 00

SUB CODE: 00

NO REF SOV: 005

OTHER: 000

Card 3/3

KUZNETSOV, A.R.; VASENIN, R.M.; PAVLOV, N.N.

Kinetics of swelling of SKS-30-1 latex films. Koll. zhur. 26  
no.6:692-696 N-D '64 (MIRA 18:1)

1. Moskovskiy tekhnologicheskii institut legkoy promyshlennosti.

КОЗЛОВ, Н.С.; КОВИЛОВ, Н.А.

Nature of the interglobular interaction in the films of grade 30-1 synthetic styrene rubber latex obtained by means of ionic deposition.  
Kauch. i rez. 24 no.4:13-14 Ap '65. (MIRA 18:5)

1. Moskovskiy tekhnologicheskii institut legkoy promyshlennosti.

ACC NR: AF6014715

(A)

SOURCE CODE: UR/0323/65/000/006/0075/0082

AUTHOR: Kuznetsova, G. F. (Engineer); Zurabyan, K. M. (Candidate of Technical Sciences); Kuznetsov, A. R. (Candidate of Technical Sciences)

ORG: Central Scientific Research Institute of the Leather-Shoe Industry (Tsentral'nyy nauchno-issledovatel'skiy institut kozhevenno-obuvnoy promyshlennosti)

TITLE: Strengthening the cemented seam in making shoes without roughing the covered edge

SOURCE: IVUZ. Tekhnologiya legkoy promyshlennosti, no. 6, 1965, 75-82

TOPIC TAGS: footgear, adhesive, adhesive bonding, chloroprene, leather

ABSTRACT: The formation of strong bonded seams in shoes without roughing the leather before adhesive application was investigated using chemically similar polymeric materials in finishing the leather and in compounding the new adhesive compositions. The strength of the bonded seam in unroughed and in surface-roughed leather depends primarily on the adhesion of the coating to the leather: if the coating has low adhesion, peeling occurs at the coating-leather boundary. Incorporation of latex LTN-1 in the coating composition to increase bond strength was found less expedient than incorporation of a polymeric film-forming material (chloroprene-containing MKh-30) in the adhesive composition. Adhesion of the coating to leather is increased by using

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ACC NR: AF6014715

essentially the same polymeric film-forming material in compounding the pigmented compositions and in leather finishing. Small amounts (10-20% on weight of the adhesive) of the polymeric film former increases the cemented seam strength. "The work was done in the Laboratory of Finishing and Polymeric Materials of the TsNIIKP and at the Department of Shoe Technology MTILP." Orig. art. has: 4 tables and 5 figures.

SUB CODE: 11, 15/ SUBM DATE: 20Apr65/ ORIG REF: 006

Card 2/2



KUZNETSOV, A.S., kapitan meditsinskoy sluzhby

Treatment of the lumber ischialgic syndrome. Voen.-med.zhur.  
no.9:80-81 S '61. (MIRA 15:10)

(SCIATICA)

MIZNETSOV, A.S., starshiy leytenant meditsinskoy sluzhby

Regional novocaine block in ~~treatment~~<sup>e</sup> a neurasthenic syndrome.  
Voen.-med. zhur. no.11:76 N '61. (MIRA 15:6)  
(NOVOCAINE) (NEURASTHENIA)

KUZNETSOV, A.S.

Icings and spaces of open water among river ice in the northeastern part of the U.S.S.R. Sbor. rab. po gidrol. no.2:72-86 '61.  
(MIRA 15:2)

1. Kolymskoye upravleniye gidrometeorologicheskoy sluzhby.  
(Siberia, Eastern—Ice on rivers, lakes, etc.)

**PROCESSES AND PROPERTIES INDEX**  
1ST AND 2ND EDITIONS

**KUZNETSOV, A. S.**

21

*Report on the work with multiple systems of bore holes  
(in underground gasification) at an anthracite mine. A.  
S. Kuznetsov, Podzemnaya Gasifikatsiya Uglei 1834, No.  
27-28-30.— Introduction of air into the drift through a  
multiple system of Fe-lined bore holes, permits better con-  
trol of the process, smoother operation and more uniform  
gas compn. than the use of single bore holes. S. L. M.*

**ASB-52A METALLURGICAL LITERATURE CLASSIFICATION**

ISSUE NO. 121

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PROCESSES AND PROPERTIES INDEX

**KUZNETSOV, A-S.** 91

<sup>14</sup> Content of free oxygen in a fuel gas and its explosive-ness. A. S. Kuznetsov. *Podzemnye Gazobetsnye Ugol* 1935, No. 5, 22-23. Fuel gas conts. CO, 1.8, O<sub>2</sub> 1.0, CO 0.17, CH<sub>4</sub> 0.57 and H<sub>2</sub> 23.73%. was mixed with air, 8 to 20% by vol., and tested for explosiveness by igniting it in a closed vessel by means of a heated Pt wire. Pressure varied from 4.8 to 14.4% above atm. Signs of explosion begin to appear at 6.42% O<sub>2</sub> content. S. L. Madorsky

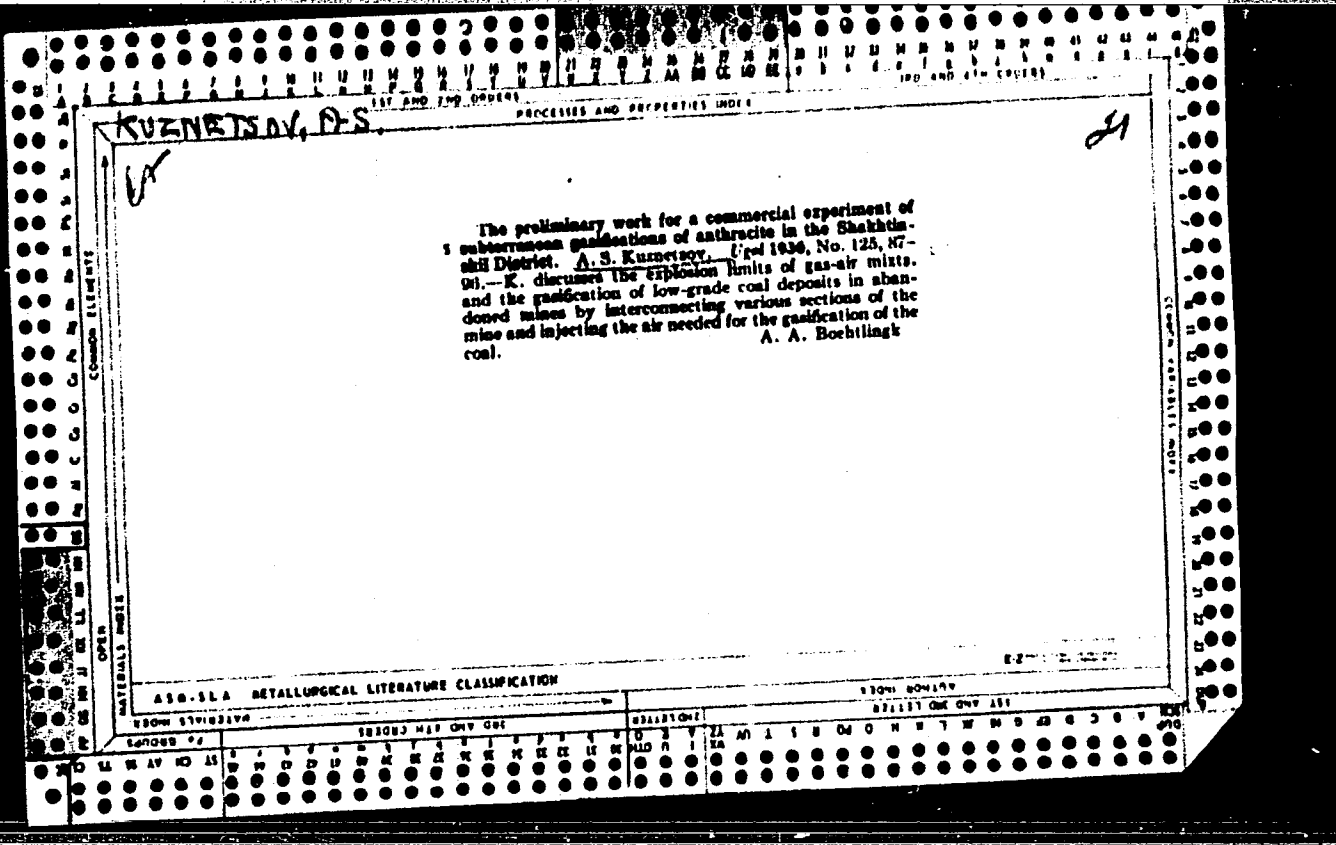
ASS. ILLA METALLURGICAL LITERATURE CLASSIFICATION

Common Elements

Common Variable Elements

Common Elements

Common Variable Elements



KUZNETSOV, A.S.

Relation between the present relief of the Tobol'sk region with  
deep tectonic processes. Dokl. AN SSSR 118 no.5:1014-1017 P. '58.

(MIRA 12:1)

1. Institut nefti AN SSSR. Predstavleno akademikom S.I.  
Mironovym.

(Tobol'sk region--Geology, Structural)

AUTHOR:

Kuznetsov, A. S.

20-118-5-48/59

TITLE:

On the Relation Existing Between the Modern Relief of the Tobol'skiy Region and Deepseated Tectonic Geology (O svyazi sovremennogo rel'yefa Tobol'skogo rayona s glubinnoy tektonikoy)

PERIODICAL:

Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 1018-1020 (USSR)

ABSTRACT:

Several local uplifts have been found in the tertiary deposits of this district, 6 drill holes have reached the granites of the foundation in a depth of from 2200 to 2300 m. The Ovsyannikovskoye (Tobol'skoye) uplift shows an anticlinal character. The vaults have broken down in the entire mass of the Meso-Cenotypal era. On old sediments, the structures are much steeper. They flatten out in the direction of the upper horizons. The same rule holds for the neighboring Zavodoukovskaya and Pokrovskaya anticlinal structures. The direction of strata and the depth position as well as the width of several formations is described by means of the mentioned drill holes. From these, the author draws con-

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On the Relation Existing Between the Modern Relief  
of the Tobol'skiy Region and Deapsed Tectonic Geology

20-118-5-48/59

clusions as to the velocity of uplifts in different localities. The small Ovsyannikovskoye uplift is considered to be independent. The principal uplift is a greater one, being located southwest of Tobolsk. All these particularities can be traced back to a different behaviour of the foundation in the neighborhood of the drill holes n 1-R and n 5-R. The above situation becomes visible on a structural map (figure 2), which was compiled on the level of the upper durable sand layer in the Lower Oligocene. On a map, compiled on the washed-out-surface of the Lower Oligocene, the Ovsyannikovskoye rising is not marked down. Projections in the vault parts of the mentioned structures occur on the washed-out surface of the Lower Oligocene sediments. This testifies a further growth of the mentioned structures, even after the Oligocene. Because of the fact, that the uplifts in the Meso-Cenotypal era reflect the projections of the foundation and are expressed by the ground relief, it is possible to speak of a relation between the ground relief and the foundation or the depth tectonics, respectively. From the fact, that the Tobol'skoye uplift shows a northeastern direction of strata, the Abalaks koye, Dubrovninskoye and Ust'-Ishimskoye uplifts, however, show a northwestern one, it is obvious, that not only the tertiary sediments have the same direction of strata, but also the projec-

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On the Relation Existing Between the Modern Relief  
of the Tobol'skiy Region and Deepseated Tectonic Ecology

~~20-112-5-42/57~~

tions of the Palaeozoic foundation, which are their cause. Two principal conclusions can be drawn: 1) The positive structures of the Tobol'skiy district, which have recently been revealed, are linked with the projections of the Palaeozoic foundation. They are distinguished by an anticlinal development during the entire Meso-Cenotypal era and their growth is continued up to present times. 2) the boundary of distribution of the Ural'skiy direction of strata passes along the meridian of the town of Tobol'sk.

There are 2 figures, and 6 references, all of which are Soviet.

ASSOCIATION: Institut nefi Akademii nauk SSSR (Institute for Petroleum,  
AS USSR)

PRESENTED: September 16, 1957, by S. I. Mironov, Academician.

SUBMITTED: September 12, 1957.

Card 3/3

KUENETSOV, A.S.

Formation, and oil and gas potentials of the Tobol Uplift.  
geol.nefti i gaza 3 no.8:19-23 Ag '59. (MIRA 12'11)

1. Institut geologii i razrabotki goryuchikh iskopayemykh AN  
SSSR.

(Tobol Valley--Petroleum geology)  
(Tobol Valley--Gas, Natural--Geology)

KUZNETSOV, A.S.

New data on the geology of Tobol'sk District. Trudy Inst.  
geol. i razrab. gor. iskop. 1:52-59 '60. (MIRA 14:1)  
(Tobol'sk District--Geology)

VARENTSOV, M.I.; RYABUKHIN, G. Ye.; GROMEKA, T.G.; KUZNETSOV, A.S.

New oil- and gas-bearing areas of North Africa in Libya.  
Geol. nefiti i gaza 5 no.6:56-60 Je '61. (MIRA 14:6)

1. Institut geologii i razrabotki goryuchikh iskopayemykh,  
Moskovskiy institut neftekhmicheskoy i gasovoy promyshlennosti  
im. akademika Gubkina, i Glavnoye geologo-razvedochnoye uprav-  
leniye RSFSR.

(Libya—Petroleum geology)  
(Libya—Gas, Natural—Geology)

VARENTSOV, M.I.; RYABUKHIN, G.Ye.; KUZNETSOV, A.S.

New oil- and gas-bearing areas in the Algerian section of the Sahara. Geol. nefi i gaza 5 no.7:51-55 J1 '61. (MIRA 14:9)

1. Institut geologii i razrabotki goryuchikh iskopayemykh, Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti im. akademika Gubkina, Glavnoye geologo-razvedochnoye upravleniye RSFSR.

(Algeria—Petroleum geology)  
(Algeria—Gas, Natural—Geology)

VARENTSOV, M.I.; RYABUKHIN, G.Ye.; KUZNETSOV, A.S.

West African oil and gas-bearing province. Geol. nefiti i  
gaza 6 no.2:54-59 F '62. (MIRA 15:2)

1. Institut geologii i razrabotki goryuchikh iskopayemykh AN  
SSSR, Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti  
imeni akademika Gubkina i Glavnoye upravleniye geologii i  
okhrany neдр pri Sovete Ministrov RSFSR.

(Africa, West—Petroleum geology)

(Africa, West—Gas, Natural—Geology)

BAGIRYAN, G. V.; GRISHIN, G. L.; KUZNETSOV, A. S.; KARASEV, I. P.

Eastern Siberia is a new oil- and gas-bearing province. Razved.  
i okh. nedr 28 no.6:3-5 Ja '62. (MIRA 15:10)

1. Glavnoye geologicheskoye upravleniye RSFSR (for Bagiryan,  
Grishin, Kuznetsov), 2. Gosudarstvennyy trest po geologicheskim  
izyskaniyam na neft' v Vostochnoy Sibiri (for Karasev).

(Siberia, Eastern—Petroleum geology)  
(Siberia, Eastern—Gas, Natural—Geology)



KUZNETSOV, A.S.; BOYCHUK, V.V.

Snow cover and the river regime in the northeast of the U.S.S.R.  
Trudy SVKNII no.2:56-84 '63. (MIRA 18:2)

KOZLOV, A.I.; SEVOST'YANOV, K.M.; BAGIATSI, G.V.; KUZNETSOV, A.S.

Outlook for the development of geological prospecting operations for oil and gas in Eastern Siberia and the Far East. Neftegaz. geol. i geofiz. no.6:9-12 '63. (MIRA 17:10)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete Ministrov RSFSR.

KUZNETSOV, A.S.; SEVOST'YANOV, K.M.

Oil- and gas-bearing basins of South America. Razved. i okh.  
nedr. 30 no.5:58-63 My '64. (MIRA 17:10)

1. Gosudarstvennyy geologicheskii komitet RSFSR.

KUZNETSOV, A.S.

Case of effective cure of lumbo-sacral ganglionitis within  
a brief period by the use of a mixture of ganglionic blocking  
agents. Azerb. med. zhur. 42 no. 7:70-73 J1 '65  
(MIRA 19:1)

BAGIRYAN, G.V.; KUZNETSOV, A.S.

Oil fields in the middle of Ob'Valley. Neftegaz. geol. i  
geofiz. no.3:10-12 '64. (MIRA 17:5)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete  
Ministrov RSFSR.



Kuznetsov, A S

**AUTHORS:** Kuznetsov, A.S.  
Shaposhnikov, I.G. and Kuznetsov, A.S.

**TITLE:** On the General Theory of Relaxation Phenomena (K obshchey teorii relaksatsionnykh yavleniy)

**PERIODICAL:** Izvestiya Akademii Nauk, Vol. XX, #11, pp 1258-1261  
1956, USSR, Seriya fizicheskaya

**ABSTRACT:** A spin-system of dielectric paramagnetic crystal, isolated from the lattice, with normal spin magnetism, which interacts with an external magnetic field directed along the Z-axis, is considered.

Extending the Waller theory (2), the authors derive equations for the magnetization  $\xi$  of a paramagnetic, in which  $\chi'$  and  $\chi''$ , real and imaginary components of the complex magnetic susceptibility, are represented by periodical functions of time.

Actually, however, experience shows that quantities  $\chi'$  and  $\chi''$  are independent of time.

Card 1/3 The authors explain this discrepancy by pointing out

TITLE:

On the General Theory of Relaxation Phenomena ( K obshchey teorii relaksatsionnykh yavleniy)

that relaxation is a specifically macroscopic phenomenon. They modify the initial equations by replacing the sums by integrals and making some plausible assumptions as to the property of some function  $f$ , which ensures the existence of the integrals. These assumptions are the following: the function  $f$  and its first derivative are continuous in the region of their determination and the function  $f$  has a finite number of maxima.

In case of correctness of the assumptions made, the theory leads to a conclusion, which asserts the existence of a relaxation phenomenon in a spin-system of dielectric paramagnetic crystals, isolated from the lattice, with normal spin magnetism, for all practically important spans of time.

The bibliography lists 7 references, of which 3 are Slavic (Russian).

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**TITLE:** On the General Theory of Relaxation Phenomena (K  
obshchey teorii relaksatsionnykh yavleniy)

**INSTITUTION:** State University imeni A.M. Gorkiy in Molotov

**PRESENTED BY:**

**SUBMITTED:** No date

**AVAILABLE:** At the Library of Congress

Card 3/3

S/058/60/000/006/017/040  
A005/A001

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 6, pp. 197-198, # 14312

AUTHOR: Kuznetsov, A.S.

TITLE: On Certain Questions of the Theory of Relaxation Phenomena

PERIODICAL: Uch. zap. Tadzh. un-t, 1958, Vol. 18, pp. 66-69

TEXT: The author derived a formula to a linear approximation with respect to the external magnetic field  $H_0$ , which describes the variability in time of the magnetic moment  $M$  of a spin system after switching off the field  $H_0$ . The existence of the relaxation process  $[M(t \rightarrow \infty) \rightarrow 0]$  may be proved under the following conditions: 1) the summation over the matrix elements of the spin-spin perturbation  $V$  can be replaced by the integration of the distribution function  $f(\omega)$  of the quantum transition frequencies corresponding to the operator  $V$ ; 2)  $f(\omega)$  is an integrable function in sense of Riemann; 3) the interaction between the spin system and the lattice is absent. It is shown that the exponential law of the spin-spin relaxation process corresponds to the Debye form of the  $f(\omega)$  curve.

U.Kh. Kopvillem

Translator's note: This is the full translation of the original Russian abstract.  
Card 1/1

S/058/60/000/006/019/040  
A005/A001

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 6, p. 215, # 14428

AUTHOR: Kuznetsov, A.S.

TITLE: A Method of Finding Out the Distribution Function of the Energy Levels of a Spin System of Normal Paramagnetics

PERIODICAL: Uch. zap. Tadzh. un-t. 1958, Vol. 18, pp. 70-72

TEXT: The author shows that the distribution of the spectrum points of the spin-spin-interaction operator can be considered as the Gaussian distribution with its center in zero and with very small dispersion; his method is analogous to the method of qualitative investigation of the energy spectrum nature of the atom nucleus, which was applied by Bethe (Fizika yadra 2, GITTL, 1948).

U.Kh. Kopviliem

Translator's note: This is the full translation of the original Russian abstract.

Card 1/i

81123  
P/045/60/019/02/10/013  
B006/B011

24.6900  
24.6520

AUTHORS: Helper, H., Kuznetsov, A. S., Meshcheryakov, M. G.,  
Świątkowski, W., Vovchenko, V. G.

TITLE: Energy Spectra of Charged Pions Produced in pd-Collisions  
at 660 Mev <sup>19</sup> <sub>19</sub>

PERIODICAL: Acta Physica Polonica, 1960, Vol. 19, No. 2, pp. 227-234

TEXT: In the present paper the authors describe the measurements of energy spectra of charged pions produced in pd- and pp-collisions, and discuss the results of these investigations with the aid of diagrams. By means of a magnetic spectrometer they determined the energy spectra of pions of the reactions  $p+p(n) \rightarrow \pi^+ + p+n(n)$ ,  $p+n(p) \rightarrow \pi^+ + n+n(p)$ ,  $p+n(p) \rightarrow \pi^- + p + p(p)$ , and  $p+d \rightarrow \pi^+ + {}^3\text{He}$ , and for comparison, the energy spectrum of positive pions produced in free pp-collisions. From these comparisons one can derive conclusions as to the pion production process and the nature of nucleon bindings in the deuteron. Experiments were conducted with the 6-meter synchrocyclotron of the Joint Institute of Nuclear Research (Dubna); Fig. 1 shows the experimental arrangement. Figs. 2 and 3 show the

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Energy Spectra of Charged Pions Produced  
in pd-Collisions at 660 Mev

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B006/B011

energy spectra. By integrating the spectra over the energy (in the center-of-mass system) the differential production cross sections were found to be  $d\sigma/d\Omega(p+p \rightarrow \pi^+ + \dots) = (6.7 \pm 0.7) \cdot 10^{-28} \text{ cm}^2/\text{steradian}$ ;

$d\sigma/d\Omega(p+d \rightarrow \pi^+ + \dots) = (5.9 \pm 0.6) \cdot 10^{-28} \text{ cm}^2/\text{steradian}$ ;

$d\sigma/d\Omega(p+d \rightarrow \pi^- + \dots) = (0.57 \pm 0.08) \cdot 10^{-28} \text{ cm}^2/\text{steradian}$ . The differential cross section for positive pion production in free pp-collisions at 660 Mev ( $90^\circ$  in the c.m.s.) is close to the value

$(6.8 \pm 1.5) \cdot 10^{-28} \text{ cm}^2/\text{steradian}$  obtained by B. S. Neganov and O. V. Savchenko, but is smaller than the value obtained by A. Meshkovsky. The ratio of probabilities of positive meson production in collisions of protons with free and bound protons is equal to

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Energy Spectra of Charged Pions Produced  
in pd-Collisions at 660 Mev

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$$\frac{d\sigma}{d\Omega} (p + p \rightarrow \pi^+ + \dots)_D = 0.79 \pm 0.08.$$

Generally speaking, this ratio

$$\frac{d\sigma}{d\Omega} (p + p \rightarrow \pi^+ + \dots)_H$$

can differ from unity only if the interference between amplitudes of possible meson-nucleon states is different. It follows from the data obtained that at  $90^\circ$  in the c.m.s. the ratio of the number of positive pions to that of negative pions from deuterium is equal to  $10.3 \pm 1.3$ . Prokoshkin is mentioned. The investigation under review was submitted in a lecture before the 6th Session of the Scientific Council of the Joint Institute of Nuclear Research on June 1, 1959. There are 3 figures, 1 table, and 10 references: 5 Soviet, 2 American, and 2 British.

ASSOCIATION: Joint Institute of Nuclear Research, Dubna

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88428

S/056/60/039/006/015/063  
B006/B056

24.6900

AUTHORS: Vovchenko, V. G., Gel'fer, G., ~~Kuznetsov~~, A. S.,  
Meshcheryakov, M. G., Svyatkovskiy, V.

TITLE: Effect of Nuclear Binding of Nucleons Upon the Shape of  
Pion Energy Spectra

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,  
Vol. 39, No. 6(12), pp. 1557-1570

TEXT: A description is given of experiments which were carried out with the aim of obtaining quantitative data on the effect produced by nucleon bindings in deuterons and carbon nuclei upon the production of charged pions. Conclusions are drawn with respect to pion production processes on the basis of comparisons of the energy spectra of pions produced in collisions of protons with free protons and with nucleons bound in deuterons and carbon nuclei. The experiments were conducted in a way ensuring strictly equal conditions in taking the spectra and separating the pp- and pn-collisions. The experiments were carried out on the six-meter synchrocyclotron of the Joint Institute of Nuclear

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S/056/60/039/006/015/063  
B006/B056Effect of Nuclear Binding of Nucleons  
Upon the Shape of Pion Energy Spectra

Research. For the pp- and pd-collision experiments, thin-walled cylindrical vessels (4 cm x 12 cm) filled with liquid hydrogen and deuterium, respectively, were used as targets. The densities were 0.0708 and 0.169 g/cm<sup>3</sup>, respectively. In the experiments with carbon a 3 mm thick, 5 x 5 cm<sup>2</sup> graphite plate was used as target. In the target center, the proton energy in all cases was (654±5) Mev, the slowing-down losses in hydrogen and deuterium, respectively, were 1.4 and 1.7 Mev, and in carbon they were 1.9 Mev; the slowing-down losses of the 150-Mev pions were 0.7, 0.8, and 0.5 Mev, respectively. The proton flux in a beam of 2 x 3 cm<sup>2</sup> cross section was 2·10<sup>8</sup> p/cm<sup>2</sup>.sec. The energy spectra of the charged pions were measured by a magnetic spectrometer with two thin scintillation counters at the input, which was described by L. S. Azhgirey et al. The pion recording threshold was about 35 Mev. The results obtained had, after a number of corrections, which had an error of 7% for the differential cross sections. The differential elastic pp scattering cross sections at 654 Mev and for 56° in the laboratory system (l.s.) were taken to be (6.7±0.35)·10<sup>-27</sup> cm<sup>2</sup>/steradian, so that for 120° in c.m.s. the value (3.41±0.13)·10<sup>-27</sup> cm<sup>2</sup>/steradian was obtained. The

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Effect of Nuclear Binding of Nucleons  
Upon the Shape of Pion Energy Spectra

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difference found to exist in the spectra of mesons from deuterium and carbon is said to be due to the following reasons: a) a higher degree of pair correlation of the nucleons in the carbon nuclei than in deuterons, b) differences in nucleon momentum distribution in these nuclei, and c) effect of secondary pion-nucleon interactions in carbon nuclei. For an angle of  $\sim 90^\circ$  in the c.m.s. of the two colliding nucleons, the following ratio of differential cross sections was found:

$$\frac{d\sigma}{d\omega} [p + p \rightarrow \pi^+]_H : \frac{d\sigma}{d\omega} [p + p \rightarrow \pi^+]_D : \frac{d\sigma}{d\omega} [p + p \rightarrow \pi^+]_C = 1:0.79:0.40.$$

The  $\pi^-$ -meson yields from deuterium and carbon per nucleon of the target nucleus were found to be approximately the same. The  $\pi^+-\pi^-$ -meson yield ratios for deuterium and carbon were found to be  $10.3 \pm 1.3$  and  $6.0 \pm 0.8$ . The decrease of this ratio on the transition from deuterium to carbon is explained by the considerable fraction of secondary exchange interaction ( $\pi^0 + n \rightarrow \pi^- + p$ ) in the  $\pi^-$ -meson yield of carbon. B. S. Neganov, O. V. Savchenko, A. G. Meshkovskiy, Yu. D. Prokoshkin, L. B. Parfenov, and M. S. Kozodayev are mentioned. There are 4 figures,

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Effect of Nuclear Binding of Nucleons  
Upon the Shape of Pion Energy Spectra

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3 tables, and 31 references: 14 Soviet, 14 US, 1 CERN, and 2 British.

ASSOCIATION: Ob'yedinenyy institut yadernykh issledovaniy  
(Joint Institute of Nuclear Research)

SUBMITTED: July 9, 1960

Text to Fig. 4 : Comparison between the energy spectra of the charged pions 1)  $\pi^+$ -mesons, emitted in free pp collisions. 2)  $\pi^+$  from  $[pp]_D$ ; 3)  $\pi^+$  from  $[pp]_C$ ; 4)  $\pi^-$  from  $[pn]_D$ ; 5)  $\pi^-$  from  $[pn]_C$ . All spectra are normalized on a uniform area.

Text to Table 1: Differential cross sections for charged pions in pp- and pC-collisions at 654 Mev. Angle of observation  $56^\circ$  with respect to the proton beam ( $\sim 90^\circ$  in the c.m.s.). 1) Differential cross sections, in  $10^{-28}$  cm<sup>2</sup>/steradian; 2) Process; 3) Nucleons; 4) l.s.; 5) c.m.s.

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20690

S/120/61/000/001/028/062  
E194/E184

9.7500

AUTHORS: Akimov, Yu.K., and Kuznetsov, A.S.

TITLE: A 20-Channel Amplitude Analyser

PERIODICAL: Pribery i tekhnika eksperimenta, 1961, No.1, pp.92-95

TEXT: This article describes an impulse amplitude analyser based on scintillating counters using organic scintillators. The operating principles and preliminary developments were described at the Third Scientific-Technical Conference on Nuclear Electronics in Moscow, March 1957. The particles to be recorded pass through a number of scintillation counters, one of which is a spectrometric counter. The impulses from this counter pass through a preliminary amplifier to a transmission circuit controlled by signals from a coincidence circuit to which the outputs from the other scintillating counters are applied. After linear amplification the impulses pass to a threshold device which acts as follows. If the amplitude of the impulses is below the threshold the impulses pass through it as through an ordinary amplifier; when they exceed the threshold amplitude the impulses are reduced by a constant amount. As a result of this the  
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E194/E184

A 20-Channel Amplitude Analyser

amplitude of impulses for the 11th channel is equal to that of impulses for the first; for the 12th the amplitude is equal to that for the 2nd, and so on. Simultaneously, by means of an additional signal the distribution device is reconnected from the first to the second decade of channels of the counter. An impulse generator whose output alters linearly with time is provided for adjustment of the instrument. The spectrometric counter consists of a plastic scintillator, a light guide of transparent plastic and a photomultiplier type ФЭУ-11 (FEU-11). The shape of the scintillator was such as to compensate the difference between the amount of light reaching the photo-cathode from the lower and upper parts of the scintillator because of increased light flashing in the upper parts. The pre-amplifier is based on a double triode 6Н6П (6N6P) and is intended to transmit impulses from the photomultiplier to a cable through which the impulses are delivered to the transmission circuit. The threshold device is described. Impulses of positive polarity are applied to two inputs; to a discriminator and through a Card 2/7

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E194/E184

A 20-Channel Amplitude Analyser

delay line of 0.5  $\mu$ sec to a valve which is normally shut to a current of 50  $\mu$ amps. If the amplitude of the impulse is below the threshold of the discriminator the valve acts as an ordinary amplifier. If the discriminator operates, the valve is additionally blocked by the amount of impulse voltage reaching its cathode from the discriminator. The amplitude of the impulse from the discriminator is formed by a diode giving an impulse of rectangular wave-shape equal in amplitude to the initial current. The resultant impulse that acts on the valve at the end of the delay line is the difference between the amplitude of the input and the formed impulses. The value of this difference is such that impulses of amplitude somewhat greater than the threshold value pass through the first channel of the distributor device. An anti-coincidence and a coincidence circuit are used to convert the first channel to the 11th, the second to the 12th and so on. These circuits are briefly described. In the distribution device the input impulses pass through a delay line consisting of 11 elements, connected by tappings to dividers which reduce the

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amplitude of the impulses according to a pre-determined law. The impulses are connected to a common mixer on the output of which there appear a series of impulses at regular time intervals diminishing in amplitude. The discriminator passes only those impulses of amplitude above the threshold value. The impulses that pass the discriminator follow two paths, one direct and the other with the delay to the anti-coincidence circuit, the undelayed impulses being restrictive. Thus there appears on the output of the anti-coincidence circuit only one last impulse which is passed further to the special device. From the output of the threshold device signals are applied to one of the inputs of the coincidence circuit; the other inputs of this circuit receive signals from tappings from the delay line. As a result coincidence occurs in only one of the circuits 1-20. Consequently the number of the channel corresponds to a definite range of amplitude of input impulses. The bandwidth of these channels is the same. The last, 20th, channel records all impulses with amplitude greater than that of the 19th channel. Tests were made with a proton beam with a Card 4/7

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E194/E184

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mean energy of 670 MeV. A polyethylene target was irradiated. The deuterons and protons with an impulse of 900 MeVs leaving the target at an angle of  $10^\circ$  pass through a system of collimators and magnetic field and were recorded by the scintillation counters. Under these conditions the specific ionisation loss of deuterons is 2.2 times greater than that of protons. The resultant characteristic is given in Fig.7, in which the count is plotted against the channel number. The first peak corresponds to protons and the second to deuterons. The somewhat high count in the tenth channel occurs because the threshold of the first discriminator was set somewhat higher than necessary. Both peaks occur against a certain background of particles. The relative half-width of the experimental curve for deuterons is 20%. The relative half-width of the calculated curve of ionisation losses in a scintillator for deuterons with an impulse of 900 MeV/s is about 10% and the scatter of the actual mean loss (that result from the deuterons not being monochromatic) can also be about 10%. X

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E032/E114

A 20-Channel Amplitude Analyser

Recently, a group of Italian authors have described a single channel analyser with logarithmic scale constructed on a similar principle to that described here (A. Alberigi et al. Ref.5). The author thanks O.V. Savchenko for assistance and A.N. Sinayev for useful comments.

There are 7 figures and 5 references: 3 Soviet and 2 non-Soviet.

ASSOCIATION: Ob'yedinennyy institut yadernykh issledovaniy  
(Joint Institute of Nuclear Research)

SUBMITTED: December 12, 1959

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27693

S/120/61/000/003/002/041  
E194/E155

26,2264

AUTHORS: Yefimov, B.V., Danel'an, L.S., Kuznetsov, A.S. and Pevzner, M.I.

TITLE: A mechanical neutron monochromator for the energy region 0.001 - 2 eV

PERIODICAL: Priroda i tekhnika eksperimenta, 1961, No.3, pp.32-39

TEXT: Mechanical neutron monochromators have been described in Soviet and foreign literature, they are useful when fairly powerful beams of monochromatic neutrons are required. They have the advantages over crystal spectrometers of giving a larger neutron flux without interference due to higher-order reflection, but they are usually of inferior resolving power in the energy range 0.1-10 eV. This article describes the construction and properties of a mechanical monochromator. The instrument was required to separate (with a resolution of 20-30%) neutrons of the same energy level up to energies of 100 eV and to achieve the greatest possible flux through the rotor of the monochromator to ensure satisfactory ratio of desired effect to background. The construction is illustrated in Fig.1, in which the numbers have

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A mechanical neutron monochromator <sup>21653</sup> S/120/61/000/003/002/041  
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the following meanings: 1 - protective rings; 2 - tube; 3 - core; 4 - bearing block; 5 - wedges; 6 - bundles of sheets forming the slots. The slot walls were sheet 0.34 mm thick separated by foils to give a slot width of 0.347 mm. The slots were 700 mm long and slots could be turned at various angles to the beam. The total thickness of metal in the path of the beam is 30 cm, which weakens by a factor of about 10 000 the intensity of neutrons in the energy range 0.002-1 MeV. It also appreciably screens gamma radiation, which is very convenient if the neutron detector is sensitive to gamma radiation. With straight slots the amount of rotor end surface that can be used is restricted, and for any given peripheral speed it is advantageous to have the diameter as large as possible. The core is a carbon steel tube of 225.2 mm external diameter fitted with endbells carrying the ball bearing journals. Eight ribs are pressed into slots on the tube surface and on these a tube of high tensile chrome-vanadium steel is shrunk. Between the internal diameter of the rotor tube, of 270.6 mm, and the external diameter of the core tube there remains an annular space divided into equal parts by the eight ribs. The slots are built up as bundles of sheets spaced with aluminium foil to give a mean  
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A mechanical neutron monochromator ... S/120/61/000/003/002/041  
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slot width of 0.347 mm. The plates are wedged in place. The total weight of the rotor was 270 kg and it was designed to operate at speeds up to 12000 r.p.m.; a hydraulic drive was finally selected in order to minimize vibration. The construction of the driving turbine is described; it can operate at speeds up to 13 000 r.p.m. On leaving the source the beam passes through three collimators before reaching the rotor. The two outer collimators govern the angle of divergence of the neutron beam and the intermediate one reduces the background of stray neutrons. In the plane perpendicular to the slot walls the beam is of constant width and in the plane parallel to the slots it converges from 100 mm at the luminous surface to 15 mm at the rotor. The cross-section of the beam and hence the resolution may be controlled by adjusting the first collimator which is of variable slot width. A graphical method was used to determine the spectral line of monochromatic neutrons and the procedure adopted is explained. Because the slots move in a circumference the spectral lines are not quite the same as they would be for a screw-shaped slot or for slots with parallel walls moving in a straight line. Resultant spectral lines determined graphically by the method described are shown in Fig.8  
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A mechanical neutron monochromator . . . .

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for two values of the angle  $\theta$  between the line of the beam and the centre line of the rotor. In these graphs the curve marked 1 corresponds to the central part of the slit. Fig. 9 shows graphs of the optimum resolution for various energies with the rotor running at a speed of 9000 rev./min. with appropriate values of  $\theta$ . The resolution may be improved by limiting the height of the slot used. The intensity of the monochromatic neutrons may then be increased without appreciably impairing the resolution by using a wider beam of appropriate divergence. In order to test the quality of assembly of the bundles of sheets and to determine the rotor position corresponding to  $\theta = 0$ , plots were made of the counting speed of a neutron detector type [BF3] (BF3) as function of the angle  $\theta$  with the rotor stationary. Fig. 10 shows typical curves. The dotted curve 1 is the calculated spectral line, the circles 2 correspond to measurements without a cadmium filter, and the crosses 3 to the use of a cadmium filter. It will be seen that there is excellent agreement between theory and experiment when a cadmium filter is used and considerable divergence if it is not. The throughput factor was calculated for  $\theta = 0$  and compared with the experimental value: it was found

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A mechanical neutron monochromator...<sup>27093</sup> S/120/61/000/003/002/041'  
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that when a cadmium filter was used the average experimental factor was 0.86 of the calculated value, and when no filter was used considerably exceeded it. The effect is obviously due to extra neutrons passing through the slot by total internal reflection from the slot walls. The effect of internal reflection is noticeable for neutrons with an energy of about 0.001 eV. For investigations in the range of 0.001-0.0001 eV, a second rotor was made of similar construction but with the plates made of plexiglass (perspex). In order to suppress reflection the plates were covered with a layer of polyisobutylene. Satisfactory results were obtained with this rotor. Numerous tests have now been made with this monochromator and they have confirmed its suitability for measuring various neutron sections and gamma ray spectra.

V.I. Mostovoy is mentioned in the article.

There are 11 figures and 4 references: 3 Soviet and 1 English.

The English language reference reads as follows:

Ref.2: J.G. Dash, H.S. Sommers. Rev. Scient. Instrum., 1953, v.24,  
2, 91. X

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A mechanical neutron monochromator ... S/120/61/000/003/002/041  
E194/E155

ASSOCIATION: Institut atomnoy energii AN SSSR  
(Institute of Atomic Energy, AS USSR)  
SUBMITTED: August 20, 1960

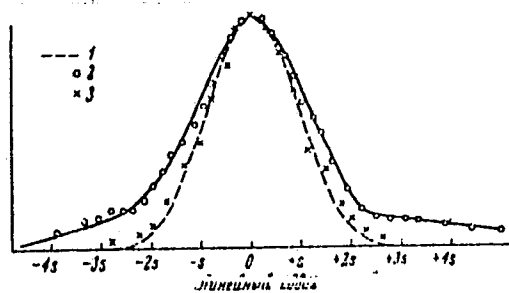


Fig. 10

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Complex inoculants for the preparation of cast iron with spheroidal  
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(MIRA 18:8)

KUZNETSOV, A.S.

Case of a grave antirabies postvaccination meningoencephalomyelitis. Azerb. med. zhur. 42 no.9:70-71 S '65.

(MIRA 18:11)

1. Submitted July 6, 1964.



KUZNETSOV, A.S. (Moskva)

Venospondylography in the diagnosis of herniated intervertebral disks. Vop. neurokhir. 27 no.6:23-28 N-D '63.

(MIRA 17:12)

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 geogr.nauk; KUZNETSOV, A.T., kand.geogr.nauk; CHUBUKOV, L.A.,  
 doktor geogr.nauk; SHVYREVA, Yu.G., mladshiy nauchnyy sotrudnik;  
 UTESHEV, A.S., kand.geogr.nauk; GOL'TSBERG, I.A., doktor geogr.  
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 Ye.A., mladshiy nauchnyy sotrudnik; GEL'MGOL'TS, N.F., starshiy  
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[Climate of Kazakhstan] Klimat Kazakhstana. Pod red. A.S.Ute-  
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KUZNETSOV, A.T.

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(Kazakhstan--Climate)

KUZNETSOV, A.T.; TEACHUK, V.P.

Studying the snow cover in Kazakhstan. Trudy Otd. geog. AN Kazakh.  
SSR no.7:177-183 '60. (MIRA 13:12)  
(Kazakhstan--Snow)

KUZNETSOV, A.T.

Characteristics of the formation of snow covering in Kazakhstan  
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(MIRA 14:8)

(Kazakhstan--Snow)



S/169/62/000/012/082/095  
D228/D307

AUTHOR: Kuznetsov, A.T.

TITLE: Question of a method for snow cover observations  
in Kazakhstan

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 12, 1962, 56-57,  
abstract 12V355 (In collection: Snezhn. pokrov, yego  
rasprostr. i rol'v nar. kh-vc, M., AN SSSR, 1962,  
15-19)

TEXT: The application of combined research methods is most  
promising for exposing the mode of occurrence and dynamics of the  
snow cover in the complex orographic and climatic conditions of Kaz-  
akhstan. Coordination of data characterizing the snow cover of Kaz-  
akhstan with the results of climatic research shows that the materi-  
als of snow cover observations at zonal points can be expediently  
processed by reducing them to the data of reference points. When  
using the combined method of snow cover observations, the reference  
points and, if possible, the zonal points are linked up on the net-  
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Question of a method ...

work of local air-routes, on which observations are made monthly or at least 3 times a winter (in the period of stable snow-cover formation; when the depth of the snow cover is maximal; and at the beginning of the thaw). The network of temporary snow-measuring areas, where a lightened route snow-measuring survey is made, is chosen if the distances between reference points are large. Air-route observations, conducted synchronously with ground observations at reference points, provide opportunities for forming a sufficiently reliable idea of the degree, to which a territory is covered by snow, and for estimating the mode of occurrence, structure, depth, and state of the snow cover, and the sites of snow removal and accumulation. Visual air-route observations are supplemented by photographing the individual, most substantial, and typical sections of the snow cover; places from which snow is being blown away; accumulative forms of the snow cover; etc. The proposed method, whereby snow cover observations at reference points are combined with air-route observations, enables the results of all previous observations to be used by introducing appropriate conversion factors. It also provides opportunities for establishing the relations of snow cover

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Question of a method ...

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dynamics to the synoptic processes influencing it. Under the comparatively stable wind conditions of Kazakhstan systematic air-route and ground observations will allow the migration of snow to be fixed. They will also allow quantitative indices of the influence of individual topographic and vegetation features to be exposed for a specific territory. Detailed yearly field investigation of the snow cover and the synoptic conditions of its formation and disappearance will permit the exposure of regularities in the dynamics of snow cover distribution and, thus, an approach to the solution of a problem that is most important practically; to predict the individual stages of formation of the snow cover and its characteristics. 3 references.

[Abstracter's note: Complete translation]

Card 3/3

KUZNETSOV, A.V. (Kommunarsk. Luganskaya oblast'), KUZNETSOVA, P.S. (Kommunarsk. Luganskaya oblast')

Monographic solution of a mining problem, Nom. sbor. no. 3216-22 '65.  
(MIRA 18:10)

KUZNETSOV, A.V. (Kommunarsk, Luganskaya oblast')

Nomographing of constructions of illustrative images without using points of convergence. Nom. sbor. no.3:23-30 '65.

Method of construction of axonometric drawings by means of superposition of the image field above the binary nomographic field.  
Ibid.:32-40

(MIRA 18:10)

KUZNETSOV, A.V.

Unsolvability of the general completeness, resolution, and  
equivalence problems for propositional calculus. Alg. 1 log. 2  
no.4:47-66 '63. (MIRA 17:8)

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Mr. A. J. ...

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OTHER

KUZNETSOV, A.V. (Leningrad)

Air and air collectors in heat-supply systems. Vol. 1 san.  
tekh. no.3:30-31 Mr '59. (MIRA 12:2)  
(Hot-water heating)

KUZNETSOV, A.V.

Analogs of "Sheffer's stroke" in constructive logic. Dokl. AN SSSR  
160 no.2:274-277. Ja '65. (MIRA 18:2)

1. Submitted June 29, 1964.

VLASOV, V. V.; KUZNETSOV, A. V.

Melanterite and the products of its alternation. Zap. Vses.  
min. ob-va 91 no.4:490-492 '62. (MIRA 15:10)

1. Kazanskiy filial AN SSSR.

(Tatar A.S.S.R.—Melanterite)  
(Udmurt A.S.S.S.—Melanterite)

KUZNETSOV, Aleksey Vasil'yevich; ZHEREBKINA, D.I., red.; TIKHOCHOVA, I.M., tekhn. red.

[Communist labor will triumph; from the experience of communist labor groups in Leningrad industries] Kommunisticheskiy trud pobedit; iz opyta raboty kollektivov kommunisticheskogo truda promyshlennykh predpriatii Len'ograda. Leningrad, Lenizdat, 1961. 101 p. (MIRA 15:2)  
(Leningrad--Socialist competition)

GAYDAROV, Yu.V., kand.tekhn.nauk; KVASNITSKIY, Ye.A., inzh.  
KUZNETSOV, A.V., inzh.

Controlling stresses during the creation of prestressing in  
steel elements. Prom. stroi. 39 no.7:40-45 '61.

(MIRA 14:7)

1. Stalinskoye otdeleniye Zapadno-Sibirskogo filiala  
Akademii stroitel'stva i arkhitektury (for Gaydarov, Kvasnitskiy).
2. Trest Mostostroy-2 (for Kuznetsov).  
(Stalinsk-Prestressed concrete)

MELIK-PASHAYEV, V.S.; KOCHETOV, M.N.; KUZNETSOV, A.V.; DOLINA, L.P.;  
Prinimali uchastiye: BELYAYEVSKIY, A.A.; LISUNOV, V.R.;  
NEYMAN, V.Ye.; CHERNOGLAZOVA, T.Ya.; MAMUNA, V.N.; ZHDANOV,  
M.A., prof., red.; PERSHINA, Ye.G., ved. red.; YAKOVLEVA,  
Z.I., tekhn. red.

[Methods for determining the parameters of oil and gas pools  
for appraising their reserves in platform-type fields using  
the volumetric method] Metodika opredelenia parametrov za-  
lezhei nefti i gaza dlia podscheta zapasov ob"emnym metodom;  
na mestorozhdeniakh platformennogo tipa. [By] V.S.Melik-  
Pashaev i dr. Pod red.M.A.Zhdanova. Moskva, Gostoptekh-  
izdat, 1963. 269 p. (MIRA 16:5)

(Oil reservoir engineering)

KUZNETSOV, A.V.

Widening of roentgen lines due to the effect of secondary extinction. Kristallografiia 8 no.1:102-104. Ja-P'63

(MIRA 17:7)

1. Petrozavodskiy gosudarstvennyy universitet.



KUZNETSOV, A.V.; NIFASHEVA, I.F.; GAVRILOVA, L.A.; DANILOVA, V.M.

Frontal sections in the Arctic Basin and their relationship  
with the types of synoptic processes. Trudy AANII 255:192-  
212 '63. (MIRA 17:6)



1070000, ...

Cultivated garlic Moskva, Gos. izd-vo sel'skhoz. lit-ry, 1951. 116 p.

KUZNETSOV, A.V.; LAPIDUS, M.A.; LENKOMETSEV, A.S., SKRIMOV, B.F., SHELEST, P.S., BERGAUZ, P.I., redaktor; GUREVICH, M.M., tekhnicheskiy redaktor.

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

(Collective farms)

KUZNETSOV, A.V., kandidat ekonomicheskikh nauk

Bonuses as an important factor in increasing the productivity of  
labor. Nauka i pered.op. v sel'khoz. 6 no.11:70 N '56;  
(Bonus system) (Collective farms) (MLRA 10:1)

USSR/Cultivated Plants - Potatoes. Vegetables. Melons.

M

Abs Jour : Ref Zhur Biol., No 12, 1958, 53622

Author : Kuznetsov, A.V.

Inst :

Title : I.V. Michurin's Doctrine Applied to the Selection of Vegetable and Melon Crops in Kuban'.

Orig Pub : Michurinsk sb. Krasnodar "Sov. Kuban'", 1957, 230-242

Abstract : This article describes the selection work with the vegetable and trailing cultures at the Krasnodar Vegetable-Potato Experimental Station, at the Experimental Selection Station of the All-Union Institute of the Canning Industry (Crimean Station and the Maysk Selection. The following tomato varieties were obtained at the above mentioned stations by hybridization of the local varieties with the varieties of foreign selection: Pervenets 190, Chernomoretz 175, Mayak, Opolchenets 534. A local onion variety, the Rozovyy Kabardinaskiy,

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Abs Jour : Ref Zhur Biol., No 12, 1958, 53622

doubled its yield after hybridization with the following morphoanalogous varieties: Dungsanskiy (KazSSR) and Vertyuzhanskiy (Moldavian SSR). On the basis of the crossing of aseptant varieties of geographically distant origin, long Italian x New York, a population of drought resistant eggplants with variously shaped fruit was obtained. The radish variety Krasnaya Sosul'ka 764 obtained by intervarietal hybridization of Ledyanaya Sosul'ka (Moscow) x Sans Pareil (France) - was crossed with Indian mustard (*Brassica juncea*) originating in Japan. The result was radish variety Gorchichnyy 766 distinguished by a unique pungent flavor. By crossing Chinese radish [?] with radish, a variety with large roots, Komsomol'skaya 857, was obtained; red and violet summer radishes, the Pervomayskiy, was also obtained. Intervarietal hybridization is also used in the selection of potato, pumpkin, etc. N.N. Tkachenko produced the

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USSR/Cultivated Plants - Potatoes. Vegetables. Melons.

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Abs Jour : Ref Zhur - Biol., No 12, 1958, 53622

cucumber variety Posrednik 97 zh which chiefly bears  
female flowers. -- G.N. Chernov

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**KUZNETSOV, A.V.; SAGALOVICH, Yelizaveta Naumovna**

[Vegetable gardening in China] Ovoshchevodstvo v Kitae. Moskva,  
Gos.isd-vo sel'khoz.lit-ry, 1959. 359 p. (MIRA 13:7)  
(China--Vegetable gardening)

KUZNETSOV, A., kand.ekonomicheskikh nauk

Make use of all capacities in the agriculture of the Amur Valley.  
Zemledelis 24 no.5:11-15 My '62. (MIRA 15:7)

1. Blagoveshchenskiy sel'skokhozyaystvennyy institut.  
(Amur Valley--Agriculture)

NIKOL'SKIY, L.N., inzh.; KUZNETSOV, A.V., inzh.

Roll forging of blanks as preliminary operation to press forging.  
[Nauch. trudy] ENIKMASHa 3:11-37 '60. (MIRA 14:1)  
(Forging)

S/182/62/000/012/001/005  
DO/O/D112

AUTHORS: Rebel'skiy, A.V. (Deceased), Protopopov, O.V., Kuznetsov, A.V.,  
Polyakov, I.S., and Rybakov, Yu.I.

TITLE: Press forging in sectional dies

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no.12, 1962, 3-8.

TEXT: ENIKMASH and the Moskovskiy avtomekhanicheskiy institut (Moscow Automechanical Institute) jointly studied the sectional-die forging process by forging two types of automotive universal joints. The universal joint was chosen because it is a typical automobile part with long protrusions that can be economically fabricated by the sectional-die forging method. The article gives a detailed description of the two experimental dies sets, observations of metal flow in the die and the transition radii, gaps between the punch and the die container, and the forging outline giving proper filling of the die without burrs. Engineering recommendations are given. Studies have yet to be continued to find the necessary technological data for the forging of parts other than universal joints. The recommendations concern the outline of the forging, the use of one-stage and two-stage forging for different forgings, the types of special presses to be developed. Reference

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