

18(5)

SOV/135-59-9-2/23

AUTHORS: Vasil'ev, K. V., Candidate of Technical Sciences and  
Isachenko, A. A., Engineer

TITLE: Heating by Plasma in Welding Processes

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 9, pp 5-6 (USSR)

ABSTRACT: The authors state that though free plasma streams have found some use in welding techniques, they are little known yet. In these processes, the heating of the metal is realized by a partly deformed arc stream and an unformed stream of gas discharging plasma. For the production of the arc within the gas stream, auxiliary arc discharges were used which can be produced in the stream of argon between a tungsten electrode and a water cooled copper tip. As a result a 15-20 mm long bright cone-shaped tongue of argon plasma comes out of the tip-hole. The authors remark that the luminous plasma jet is surrounded by a non-luminous stream as a transitional stage of ionized and neutral gas (Fig 2). Fig 3 shows the effective power at different lengths of the argon plasma jet at a current of 165 A. Because of

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Heating by Plasma in Welding Processes

its high temperatures, the plasma jet has a considerable melting power. Already at limited output power (8-10 KW) within the plasma jet, different metals can be melted, for instance steel, asbestos-cement, crystalline corundum (2050°C) carborundum (2200°C) and other others. The chemical composition of the plasma jet is mainly that of the gas in the arc. One can get plasma of one-atom or multi-atom gases: argon, nitrogen, hydrogen, helium, vapors of liquids (water) etc. The use of plasma heating for local treatment of non-electroconductive materials is being considered. There are 1 photograph, 3 graphs and 4 references, 2 of which are Soviet, 1 German and 1 English.

ASSOCIATION: VNIIAVTOCEN

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VASIL'YEV, K. V., kand.tekhn.nauk

Investigating oxygen-arc cutting of steel. Trudy VNIIAvtogen  
no.6:49-79 '60. (MIRA 13:8)  
(Gas welding and cutting)  
(Underwater welding and cutting)

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S/788/60/000/006/004/004  
E202/E392

1-2300

AUTHORS: Vasil'yev, K.V., Candidate of Technical Sciences,  
Isachenko, A.A.

TITLE: Plasma heating in welding processes

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut  
avtogennoy obrabotki metallov. Trudy. no.6. 1960.  
Kislorodnaya rezka, metallizatsiya, payka. 147-150

TEXT: VNIIAVTOGEN has evaluated in detail electric-arc welding  
of the constricted-arc plasma type, particularly from the point  
of view of metal-cutting. The type of plasma torch used  
employed a high-frequency priming arc which started a low-voltage,  
high-current arc. It was found that with suitable cooling of the  
constricting nozzle, current of the order of 180 to 300 A might be  
used. The geometry of the resulting plasma jet was studied in  
relation to the type of gas used. With increased rates of gas  
flow the visible part of the jet became extended and approached  
a cylindrical shape. A similar result was obtained by constricting  
further the diameter of the nozzle exit. The jet diameter and  
length increased considerably when diatomic gases (e.g. N<sub>2</sub>, H<sub>2</sub>).  
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Plasma heating ...

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E202/E392

were introduced. Some crude calorimetric measurements were made, playing the jet on stainless steel and measuring the resulting temperature increase. Even with a reduced power input of 8 to 10 kW, the jet was capable of melting various refractory materials, e.g. tungsten and corundum. The coefficient of melting a rod made of low-carbon steel, calculated according to the method used in arc-welding, was  $\alpha_p = 11.5 \text{ g/A.h}$ , for a current of 210A, arc voltage of 40 V and argon consumption of 45 litres/min; the constricting-nozzle diameter was 3.5 mm. The above plasma jet was capable of melting 2.4 kg/h of steel wire, while the oxyacetylene flame of corresponding power melted only 1.8 kg/h. Conclusion: this type of process lends itself particularly well for treatment of non-conducting materials, sensitive to reactive media and, in general, to melting refractory metals and non-metals and using these for hard-facing, spraying, welding and cutting. X

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VASIL'YEV, K.V., kand.tekhn.nauk; SHAPIRO, I.S., inzh.

Description and characteristics of air-arc cutting. Svar.  
proizv. no.8:1-4 Ag '60, (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy  
obrabotki metallov.  
(Electric metal cutting)

VASIL'YEV, K.V., kand.tekhn.nauk

Certain properties of the penetrating cutting arc. *Trudy*  
VNIIAvtogen no.7:67-87 '60. (MIRA 13:7)  
(Electric metal cutting)

VASIL'YEV, K.V., kand.tekh.nauk; SHAPIRO, I.S., inzh.

Conditions of air-arc cutting of steel. Svar.proizv. no.9:7-10  
S '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy  
obrabotki metallov.  
(Electric metal cutting)



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AUTHOR: Vasil'yev, K.V., Candidate of Technical SciencesTITLE: Gas-Flame Treatment and Gas-Electric Cutting 16

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 12, pp. 30-34

TEXT: Information is given on the section of gas flame treatment and gas-electric cutting at an exhibition on welding. The author reports on various machines and techniques exhibited. The "Avtogend-M" unit designed by Yu V. Dalago and Yu I. Dmitriyeva is fully mechanized and operates with a medium-pressure acetylene generator producing up to 80 m<sup>3</sup>/hr acetylene. The unit is completed by a conveyer for the supply of carbide-containing drums and is equipped with a device for the mechanized closed carbide supply to the bin. All the mechanisms are controlled from a central desk. The automatic operation and hermeticity of the unit provides for safety and improved work conditions. The high-pressure УВД-1 (UVD-1) unit for the compressor-less filling of acetylene flasks produces acetylene at a pressure of up to 30 kg/cm<sup>2</sup>. The ГРК-10 (GRK-10) acetylene generator is intended for acetylene supply of industrial main pipelines and the АСР-1 (ASR-1) generator for the centralized gas supply of welding shops. The waste from the

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Gas-Flame Treatment and Gas-Electric Cutting

ASR-1 machine is in the form of dry lime powder, thereby improving work conditions in acetylene shops. The A3Ш-1 (AZSh-1) unit is used for the automatic hardening of spur large-module (10-30 mm) gears of 200-1,500 mm in diameter. Each tooth is hardened consecutively. The burner is combined with a sprayer and grasps the tooth from two sides, it moves upwards at a given rate. After hardening the flame is extinguished, the burner is taken off the gear which is turned by a pneumatic mechanism, by one tooth. Then the cycle is repeated. Another unit, the УГЗ-1-58 (UGZ-1-58) model, is used for the hardening of small-module (2.8 mm) gears by high-speed rotation. The gears are heated by 4 acetylene-fed burners, which can also operate on propane, coke-gas or municipal gas. The УФН-1-60 (UFN-1-60) stand (Figure 2) is intended for the automatic building-up of brass rings or rec-tilinear parts on fixtures. A programming device is used for the automation of all necessary operations. A fillet weld of 12.5-15.5 mm width and 3-3.5 mm height is produced at a speed of up to 10 m/hr, which considerably exceeds the efficiency of conventional electric heated methods of building up brass. БМ-1 (BM-1) gaseous flux is being used which is a mixture of methylborate and methyl alcohol. This flux can be very accurately proportioned. Gas flame welding and soldering can also be automated. A manual device for gas-flux welding is on view including a ФГФ-1 (FGF-1) flux feeder (Figure 3). Natural gas for gas-flame treatment in cutting.

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Gas-Flame Treatment and Gas-Electric Cutting

bending, surface cleaning and preheating has been successfully used, resulting in considerable savings and improved work conditions. A propane-butane mixture can be used for gas-flame treatment. A model of a PA-16 (RD-1B) propane-butane balloon reductor is exhibited and oxygen reductors of the following type: the KPP-56 (KRR-56) model of 220 m<sup>3</sup>/hr capacity; the two-chamber PKA-59 (RKD-59) reductor of 60 m<sup>3</sup>/hr capacity; and the A3P-1-59 (DZR-1-59) type with shielding gas-meter. The equipment for manual cutting includes the YPP-600 (URR-600) apparatus for cutting 300-600 mm thick steel; and the flux-oxygen YOP (UFR) and YXC-4 (URKhS-4) cutting devices (Figure 4). The latter is intended for external flux feed by the installation of an additional tube and two lateral nozzles supplying the flux to the cutting area, and by a flux-feeding bin. A large number of gas cutting devices includes conventional manual cutters equipped with guide rollers with controlled electric drive and scale-tele-photocopying machines. A portable gas cutting machine is on view with a magnetic copying system for the mechanized cutting of grooves in flanges and rings of up to 7 m in diameter. A characteristic feature of the machine is that a master form is fastened to the parallelogram system of hinged frames serving for the suspension of the cutter. The magnetic drive is rigidly mounted on a plate, equipped with a clamping device. Highest duplicating accuracy is obtained by the use of ACW-2 (ASSh-2) machines for the

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Gas-Flame Treatment and Gas-Electric Cutting

simultaneous cutting of similar parts by three cutters. A machine for the shaped cutting of pipes has been manufactured by the "Neftezavodmontazh" Trust at the suggestion of N.M. Kudryavtsev, a locksmith. Pipes of 108-529 mm in diameter and 1-12 m length can be cut on this stand (Figure 5) without preliminary lay-out. The cuts can be straight, oblique, perpendicular to the pipe axis, or under an angle, etc. The pipe rotates during cutting and the cutter moves reciprocatingly along its axis. The machine is equipped with a support for the cutting of the rotating pipe and another one for perforating the fixed pipe. Among various machines for oxygen cutting which can be used in ship and locomotivebuilding, the СГУ-1 (SGU-1) machine is a particularly interesting model. It is of the rectangular coordination type and intended for the mechanized cutting of shaped parts. Low carbon steel is cut by the acetylene-oxygen method and alloyed steel or non-ferrous metals by a penetrating arc. Sheets up to 2 m wide and 6 m long may be processed. The longitudinal motion of the trolley is combined with the transverse motion of the carriage, so that the latter can be located at any point of the operational area and displaced along the trajectory of any configuration. The machine is equipped with a magnetic, a mechanical or a photo-duplicating head. The motion speed of the mechanical and photo-duplicating heads is 50-1,500 mm/min, the magnetic head moves at a speed of up to 5,000/min. The mechanized cutting of

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## Gas-Flame Treatment and Gas-Electric Cutting

sheets improves the surface quality of the edges. Gas-electric cutting is demonstrated by a series of exhibits. The РБД-1-59 (RVD-1-59) lever type air-arc cutter is intended for rough cutting of 20-25 mm thick stainless steel; this is a simple device permitting the rapid exchange of the electrode and its air consumption is up to 20 m<sup>3</sup>/hr. Air-arc cutting is employed at heavy machine-building plants, in shipbuilding and locomotive-building. New equipment was shown for metal cutting by a penetrating arc including the РДМ-1-60 (RDM-1-60) cutter (Figure 8), equipped with a head with an electrode-centering device and an insulated water-cooled tip. The tungsten electrode is hidden in the tip and the ignition of the cutting arc is made by an auxiliary arc discharge excited between the electrode and the tip. The auxiliary arc ignition is made by hand and its current is limited by a ballast resistance which, in the form of a ni-chrome string, is located in the water supply hose. Cutting is made with the arc burning in an argon-hydrogen flow. The thickness of metal cut by the penetrating arc depends on the current source voltage. A standard type ПС-500 (PS-500) generator with 90-95 v idle run voltage can be used. Then up to 25 mm thick aluminum alloys and stainless steels may be cut. The cutter is equipped with gas-measuring nozzles and a tip for exchangeable inserts. The УДР-2-58 (UDR-2-58) unit is used for manual cutting of up to 80 mm thick metal; its control cycle is fully mechanized.

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Gas-Flame Treatment and Gas-Electric Cutting

Cutting with a penetrating arc can be easily mechanized. The  $\text{VAP-1-58}$  (UDR-1-58) unit (Figure 9) is intended for the mechanized rectilinear cutting of sheets. The cutter and the automation unit are mounted on an electric-driven automotive trolley with a speed range of 80 to 8,000 mm/min. Gas consumption is 2-2.5 m<sup>3</sup>/hr and does almost not depend on the thickness of the material to be cut. The method is particularly effective when cutting curved parts, using the SGU-1-58 duplicating machine and the EDR-1-60 gas-electric cutting apparatus. The  $\text{VOP-1}$  (UFR-1) unit is used for mechanized cutting with a penetrating arc (Figure 10). The cutter is transported by the ASSh-2 machine. The process is controlled from a portable board. The head is equipped with an exchangeable copper nozzle, the electrode is fixed. The head housing is silumin-cast. Excitation is performed with the aid of an oscillator. A three-phase ignitron rectifier is used as feed source. Falling characteristic is obtained by a ballast rheostat (RB-300). The idle-run voltage is 300 v; current is 400 amp. The machine can be used to cut up to 80-120 mm thick aluminum, copper, brass, stainless steel and other non-ferrous metals. The cutting speed is 6-450 m/hr. An argon-hydrogen mixture is used. A series of modern devices are on view for metallizing and the application of non-metallic coatings, such as the  $\text{EM-3A}$  (EM-3A) apparatus for the application of coatings in the conditioning of worn out surfaces of rollers, plungers, spindles

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Gas-Flame Treatment and Gas-Electric Cutting

etc; the EM-6 (EM-6) electric-metallizing apparatus for spraying of steel and other metals; the gas metallizing MG-1-57 (MGi-1-57) device for spraying internal surfaces of pipes and cavities and the UPN-4 (UPN-4u) multi-purpose unit for applying low-melting thermoplastics or refractory powders.

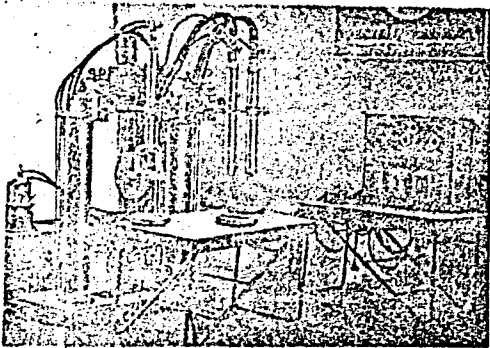


Figure 2.

The UPN-1-60 automatic building-up stand

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Gas-Flame Treatment and Gas-Electric Cutting

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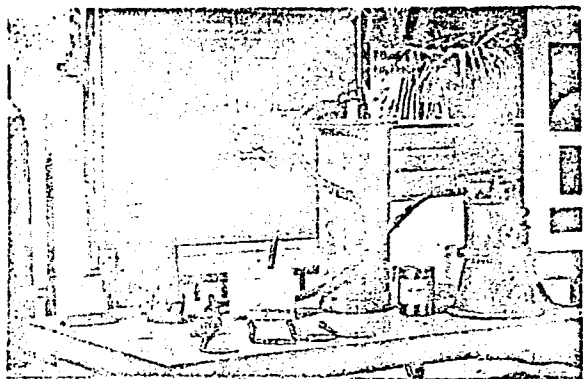


Figure 3.

Equipment for gas-flux welding and building-up

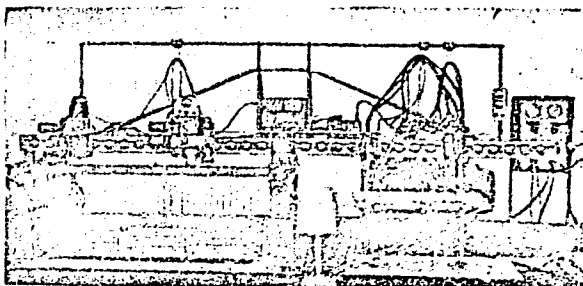


Figure 7.

The coordinate-type SGU-1 machine for oxygen cutting

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Gas-Flame Treatment and Gas-Electric Cutting



Figure 8.

The RDM-1-60 manual cutter for the cutting of metals by a penetrating arc

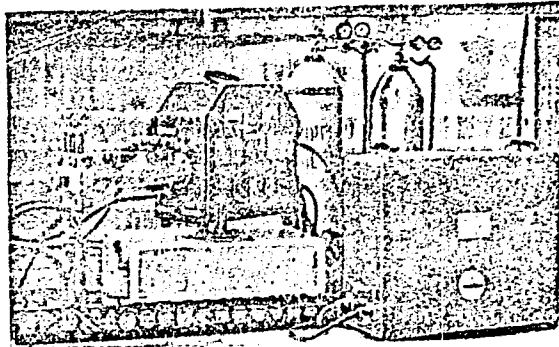


Figure 9.

The mechanized UDR-1-58 unit for metal cutting with a penetrating arc.

There are 10 figures.

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GLIZMANENKO, Dmitriy L'vovich; YEVSEYEV, Georgiy Borisovich; SHORSHOROV,  
M.Kh., kand. tekhn. nauk; VASIL'YEV, K.V., kand. tekhn. nauk,  
retsenzent; CHERNYAK, O.V., red. izd-va; CHERNOVA, Z.I., tekhn.  
red.

[Gas welding and cutting of metals] Gazovaya svarka i rezka metal-  
lov. Izd.2., perer. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit.  
lit-ry, 1961. 447 p. (MIRA 14:8)  
(Gas welding and cutting)

NATSVIN, A.V.; CHEREVATENKO, A.S.; VASIL'YEV, K.V.; PROTOSEVICH,  
L.A.; CHERNOVALOVA, V.P.; LEPLINS'AYA, A.A.; PAVLOV, A.K.;  
TASHMATOV, L.T.; CHERNOV, P.K.; SOLDATOV, P.K.; KHAYDARKULOV, G.I.;  
TSEYTLIN, M.G., kand. sel'khoz.nauk; ISZHEVTSOV, V.V., kand.  
sel'khoz.nauk, otv. red.; KRIVONOSOVA, H.A., red.; SOROKINA, Z.I.,  
tekh. red.

[Best fruit and grape varieties for drying and preserving in the  
southwestern regions of Uzbekistan] Luchshie sorta plodovykh i  
vinograda dlia sushki i konservirovaniia v iugo-zapadnykh ob-  
lastiakh Uzbekistana. Tashkent, MSKh UzSSR, 1961. 162 p.  
(MIRA 15:7)

1. Institut sadovodstva i vinogradarstva im. R.R.Shredera. Sa-  
markandskiy filial. 2. Samarkandskiy filial Instituta sadovod-  
stva i vinogradarstva im. R.R.Shredera (for all except Kuznetsov,  
Krivonosova, Sorokina).

(Uzbekistan--Fruit--Varieties)

(Uzbekistan--Grapes--Varieties)

VASIL'YEV, K.V., kand.tekhn.nauk; ISACHENKO, A.A., inzh.

Plasma heating in welding processes. Trudy VNIIAvtogen no.8:  
55-71 '62. (MIRA 15:6)  
(Plasma (Ionized gases)) (Gas welding and cutting)

VASIL'YEV, K.V., kand.tekhn.nauk; SHAPIRO, I.S., inzh.

Regularities of the air-arc cutting process. Trudy VNIIAvtogen  
no.8:101-122 '62. (MIRA 15:6)

(Electric metal cutting)

VASIL'YEV, K.V.; YEVSEYEV, G.B., kand.tekhn. nauk, retsenzent;  
MARKAZ, Yu.L., inzh., red.; EL'KIND, V.D., tekhn. red.

[Gas and electric cutting of metals] Gazoelektricheskaja  
rezka metallov. Moskva, Mashgiz, 1963. 173 p.  
(MIRA 16:12)

(Gas welding and cutting)  
(Electric metal cutting)

VASIL'YEV, K.V., kand. tekhn. nauk; SHAPIRO, I.S., inzh.

Principles of the mechanization of air-arc cutting. Trudy  
VNIIAvtogen no.9:65-72 '6. (MIRA 16:12)

VASIL'YEV, K.V., kand. tekhn. nauk

Gas-electric cutting terminology. Trudy VNIIVtogen no.9:  
85-99 '63. (MIRA 16:12)



VASIL'YEV, K.V., kand. tekhn. nauk; MASLOVA, Ye.P., inzh.

Cutting with a penetrating arc in nitrogen. Trudy VNIIAvtogen  
no.10:106-117 '64. (MIRA 17:10)

VASIL'YEV, K.V., kand. tekhn. nauk; MOROZOV, M.Ye., kand. tekhn. nauk;  
SEGALOVA, O.I., inzh.

Heat exchange in water-cooled nozzles. Trudy VNIIAvtogen  
no.11:110-116 '64. (MIRA 18:3)

ACC NR: AP7000311

SOURCE CODE: UR/0413/66/000/022/0025/0025

INVENTOR: Levin, B. G.; Yermin, N. I.; Plyuta, V. Ye.; Shestakov, M. I.;  
Vasil'yev, K. V.

ORG: none

TITLE: Method for manufacturing articles with variable cross section. Class 7,  
No. 188454

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 22, 1966, 25

TOPIC TAGS: cold rolling, variable cross section article, ~~article cold rolling~~  
*fabricated structural metal*

ABSTRACT: This Author Certificate introduces a method for manufacturing articles with variable cross section by cold rolling of a stationary blank with two undriven rolls. To improve the dimensional accuracy and the surface quality of the article the blank is rotated after each working cycle around the longitudinal axis for a programmed angle and the amount of feed is automatically changed.

SUB CODE: 13/ SUBM DATE: 05Aug61/

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UDC: 621.771.65.04

ANTONOV, I.A., kand.tekhn.nauk; VASIL'YEV, K.V., kand.tekhn.nauk; SEGALOVA,  
O.I., inzh.

Standardization of equipment for gas-electric severance cutting.  
Svar.proizv. no.5:40-41 My '65. (MIRA 18'6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennogo  
mashinostroyeniya.

VASIL'YEV, K.V.

Impulse method for measuring torque. Trudy LTA no.83:65-73  
'59. (MIRA 13:4)  
(Torque--Measurement)

VASIL'YEV, K.V.; TROFIMOV, Ya.N.

Restoration of old architectural monuments in Moscow. Gor.  
khoz.Mosk. 33 no.11:15-17 N '59. (MIRA 13:2)

1. Direktor Moskovskoy nauchno-restavratsionnoy proizvodstvennoy  
masterskoy (for Vasil'yev). 2. Glavnyy arkhitektor Moskov-  
skoy nauchno-restavratsionnoy proizvodstvennoy masterskoy  
(for Trofimov).  
(Moscow--Architecture--Conservation and restoration)

VASILYEV, L

EXCERPTA MEDICA Sec.12 Vol.11/9 Ophthalmology Sept 57

1517. VASILIEV L. and KAPLUNOVICH P. \*Adrenocorticotrophic hormone and cortisone in the treatment of diseases of the eye (Russian text) VESTN.OFTAL. 1956, 6 (15-19)

A review of the literature, grouping and action of the steroids are given. The authors observed 52 patients treated with ACTH and cortisone; local treatment was given to 28 and injections of ACTH to 29 patients; 31 patients suffered from keratitis and kerato-scleritis of various aetiology. Iridocyclitis occurred in 12, acute myositis in 2, sympathetic ophthalmia in 2 and vernal catarrh in 2 patients. In one case of rodent ulcer, which was treated unsuccessfully for 6 months, the inflammation quietened down after 4 injections of ACTH. Four cases of phaco-anaphylactic iridocyclitis were effectively treated by local cortisone. The treatment with ACTH of 2 cases of sympathetic ophthalmia was spectacular. The following conclusions were arrived at: (1) Cortisone and ACTH is an effective treatment in various eye diseases, particularly allergic inflammations of the eye. (2) The advantage of topical cortisone treatment as compared with parenteral ACTH treatment is its use in the clinic; it can be used for a prolonged time; it does not have a depressing action on the cortex of the adrenal gland and it has no side-effects. (3) Of 52 patients treated with cortisone and ACTH there was a cure in 26, improvement in 15, no improvement in 11 patients. (4) In 13 patients, there was recurrence of the inflammation upon cessation of steroid therapy, so that it had to be continued for the improvement of the condition.

Sitchevska - New York, N. Y.

VASIL'EV, L.

Summer fuels and lubricants. No 5.

Tankist, No 12, 1948.



NOBLE, I.

Coordination of Tank units in battle. o 3.

Tankist, No 12, 1946.

VASIL'YEV, L.

[Propagandizing progressive practices in enterprises] Propaganda  
peredovogo opyta na predpriatiakh. [Moskva] Moskovskii rabochii,  
1953. 46 p. (MLRA 7:4)  
(Efficiency, Industrial)

VASIL'YEV, L. (Krasnodarskiy kray)

Those who go out in front. Voenn. znan. 38 no.10:11-12 0 '62.  
(MIRA 15:10)

(Krasnodar Territory—Military education)

VASIL'YEV, L.

A number of problems should be solved. Mor.flot 22 no.12:40  
D '62. (MIRA 15:12)

1. Kapitan teplokhoda "Professor Popov" Baltiyskogo parokhodstva.  
(Merchant marine--Management)

VASIL'YEV. I.

206700. Vasil'yev. I. Priyemnik - generator. Radio, 1948, No. 6, s. 39-41

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

VASIL'YEV, L.

PA 35/49T106

USSR/Radio - Training Devices  
Radio - Training

Feb 49

"At the Conference of Inventors and Innovators,"  
L. Vasil'yev, 2 pp

"Radio" No 2

Describes new devices for demonstrating radio principles, designed by members of the Moscow Military Communication Club.

35/49T106

VASIL'YEV, L.

Television

Persistence. Radio no. 3, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

VASIL'YEV. L.

Television

The place where television sets are being made. Radio no. 5, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.



VASIL'YEV L.

238T61

USSR/Electronics - Television  
Antennas

Apr 52

"A Wide-Band Television Antenna," L. Vasil'yev,  
Moscow

"Radic" No 4, p 39

Describes an antenna which has two identical arms  
in the same plane. Each arm has three conductors  
fanned out by means of a triangular brace. A  
two-wire coaxial cable is used as a feeder.

238T61

USSR/Electronics - Television Receivers

May 53

VASIL'YEV, L.

"Where Television Receivers are Produced" L. Vasil'yev

Radio, No 5, pp 47-49

Describes assembly-line production of <sup>TV</sup>television receivers ~~at~~ (KVN-49-4's)  
at ~~some~~ plant, ~~probably located near Moscow since~~ The test pattern of the  
Moscow Television Center is sometimes used ~~by the quality control~~ to test  
finished production. Plant is preparing to mass-produce receivers having  
kinescopes with electrostatic deflection.

USSR/ Electronics - Radio recorders

Card 1/1 Pub. 89 - 16/31

Authors : Vasil'yev, L.

Title : Radio receiver-and-recorder set "Rekord"

Periodical : Radio 11, 26-27, Nov 11, 1954

Abstract : A combination radio-receiver, recorder and record player, manufactured under the name "Rekord-53", and operating on long, medium, and short waves, is described. The electrical parameters of the receiver, conforming to the Soviet Bureau of Standards (GOST), such as sensitivity, selectivity, frequency attenuation, pass band and non-linear distortion factor, are set forth. The "Rekord-53" is a superheterodyne receiver operating on 5 metal tubes. The types and designations of tubes are listed. The component parts of the playback section are also described. Data on the receiver coil-windings are listed in a special table. Illustrations; circuit diagram; table.

Institution : ...

Submitted : ...

AUTHOR: Vasil'yev, L. (Tyumen' oblast )

107-57-7-9/56

TITLE: In a Far Northern Town (V dalekom severnom gorode)

PERIODICAL: Radio, 1957, Nr 7, p 7 top (USSR)

ABSTRACT: A retired physician Sergey Ivanovich Tinskiy, over 70, who resides in a remote northern town Khanty-Mansiysk, has constructed an ultrashort-wave receiver, the first one in the town. Contacts with Kirovograd (035511), Zaporozh'ye (035501), Karaganda (011005), Kishinev (020006), Sochi (049051), Tashkent (028001), and other ham stations have been established.

Physics teacher Anatoliy Petrovich Revenko has built a 3-tube superregenerative receiver and listens to many Soviet ham stations.

Tinskiy is constructing an ultrashort-wave transmitter; his call sign will be 073514.

Photo shows Tinskiy, Revenko, and M. Borodin.

AVAILABLE: Library of Congress

CArd 1/1

44516 / 1, 2.

AUTHOR: Vasil'yev, L.

107-9-15/53

TITLE: "Turist" Radio Receiver (Radiopriyemnik "Turist")

PERIODICAL: Radio, 1957, # 9, p 21-22 (USSR)

ABSTRACT: The Riga "VEF" Plant is manufacturing the superheterodyne "Turist", equipped with five miniature tubes for medium and long wave reception.

The design and the constructional parts are described in detail in this article. The power is provided either by one "75-AMUГ-22" anode battery and two "1KC-Y-3" heating batteries or by an a.c. network having 110, 127 or 220 v, using a separate selenium rectifier. The rectifier is contained in an attachment having the dimensions of 230 x 120 x 33 mm.

The following tubes are utilized in the receiver: "42П" (HF wide-band amplifier), "1A2П" (heterodyne-converter), "1K2П" (HF amplifier), "1B2П" (detector and LF preamplifier), "2П2П" (LF output amplifier).

There are 2 photos and 2 diagrams.

AVAILABLE: Library of Congress

Card 1/1

VASIL'YEV, L.

The "Nov'" receiver. Radio no.10:37-38 0 '57. (MIRA 10:10)  
(Radio--Receivers and reception)

VASIL'YEV, L.; PAKHOMOV, Yu.

Tape recorder with pushbutton control. Radio no.11:56-59 H '57.

(MIRA 10:10)

(Magnetic recorders and recording)

VASIL'YEV, L. (Tallin)

Soldiers are thankful for their training. Voen. znar. 42 no.2:  
30-31 F '66. (MIRA 19:1)



VASIL'YEV, L.A.; SINEGLAZOV, O.M.

Comparative characteristics of the shadow (knife-and-slit)  
method and the phase contrast method. Opt. i spektr. 18  
no.6:1065-1071 Je '65. (MIRA 18:12)

VASIL'YEV, L. [Vasyl'iev, L.]

Hothouses for raising vegetables without soil. Sil'.bud. 12  
no.2:19-21 F '62. (MIRA 1968)

1. Glavnyy inzh. Ukrainskogo nauchno-issledovatel'skogo i  
proyektного instituta sel'skogo khozyaystva.  
(Greenhouses)

ANUFRIYEV, L.; VASIL'YEV, L.

Directed deposition of the condensate in stock buildings. Sel'.  
stroil. 17 no.2:20 F '63. (MIRA 16:3)

1. Sotrudniki Nauchno-issledovatel'skogo instituta sel'skikh  
zdanij i sooruzhenij Akademii stroitel'stva i arkhitektury SSSR.  
(Condensation) (Farm buildings)

VASIL'YEV, L. [Vasyl'iev, L.]

Ventilating cow barns by using heat exchangers. S11'. bud. 11  
no. 2:3-5 F '61. (MIRA 14:2)

1. Rukovoditel' laboratorii mikroklimate Nauchno-issledovatel'-  
skogo instituta sel'skogo stroitel'stva Akademii stroitel'stva  
i arkhitektury SSSR.

(Dairy Barns—Heating and ventilation)

VASIL'YEV, L. inzh.

Prolonging the life of livestock buildings. Sel.stroi. 14 no.6:  
4-5 Je '59. (MIRA 12:9)  
(Dairy barns) (Dampness in buildings)

AUTHOR: Vasil'yev, L. (Tyumen') SOV/107-59-1-24/51

TITLE: The Balancing of the Ultrashort-wave Transmitter with the Use of a Fluorescent Lamp (Simmetrirovaniye UKV peredatchika pri pomoshchi lyuminestsentnoy lampy)

PERIODICAL: Radio, 1959, Nr 1, p 31 (USSR)

ABSTRACT: The author describes his experience in the balancing of the push-pull output stage of an ultrashort-wave transmitter with the use of an ordinary fluorescent lamp.

Card 1/1

ACCESSION NR: AP4043541

S/0020/64/157/004/0830/0833

AUTHORS: Vasil'yev, L. A.

TITLE: Shadow diffraction method for the determination of the phase difference in a discontinuity of a plane wave front

SOURCE: AN SSSR. Doklady\*, v. 157, no. 4, 1964, 830-833, and insert facing p. 821

TOPIC TAGS: shadowgraph photography, diffraction pattern, diffraction analysis, photometry, wave surface

ABSTRACT: The theory developed by I. V. Obreimov (Tr. Gos. optich. inst. v. 3, no. 23, 1924), V. S. Sukhorukikh (The Slot and Filament Method from the Point of View of the Diffraction Theory of Image Formation, Candidate's Dissertation, M., 1948), and the author (with M. M. Skotnikov, DAN v. 143, no. 2, 1962) is used to determine the parameters of inhomogeneities such as wave-front discontinuities

Card 1/3

ACCESSION NR: AP4043541

(the true location of the discontinuity or the increment in path length due to the discontinuity) from the photometric character of the diffraction pattern obtained on the shadow picture. The analysis was applied to diffraction patterns obtained experimentally with an IAB-451 instrument, using as a light source a narrow slot (0.02 mm) illuminated with a lamp and filter combination having a maximum transmission near 6000 Å. The objects were glass plates on which phase steps with additional path differences  $\lambda/2$  and  $\lambda/4$  were sputtered. The practical results agreed fully with the theory. Among the limitations of the method is that the additional path difference cannot be determined from the jump in the positions of the diffraction maxima, and that the diffraction methods are suitable for the measurement of discontinuities that produce a path-length increase not exceeding  $\lambda/2$ . However, they can be used to obtain a more accurate measurement of a large discontinuity if its effect can be measured accurate to  $\lambda/2$  by some other method. This report was presented by I. V. Ovreimov. Orig. art. has: 2 figures

Card 2/3



ACCESSION NR: AP4043541

and 13 formulas.

ASSOCIATION: None

SUBMITTED: 02Jan64

ENCL: 00

SUB CODE: OP, GP

NR REF SOV: 003

OTHER: 000

Card 3/3

SLOVOKHOTOVA, N.A.; IL'YICHEVA, Z.F.; VASIL'YEV, L.A.; KARGIN, V.A.

Effect of ionized radiation on the structure of polypropylene.  
Vysokom. soed. 6 no.4:608-614 Ap '64. (MIRA 17:6)

I. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni  
L.Ya. Karpova.

ACCESSION NR: AP4042201

S/0020/64/157/002/0317/0320

AUTHORS: Vasil'yev, L.A.; Obreimov, I.V.; Yerslov, I.V.

TITLE: Application of the diffraction-shadow method for the quantitative determination of the intensity of the plane density jump at the model in a supersonic flux

SOURCE: AN SSSR. Doklady\*, v. 157, no. 2, 1964, 317-320

TOPIC TAGS: shock wave, supersonic wave, shadow diffraction method, optical phase change

ABSTRACT: The diffraction-shadow method by I.V. Obreimov (Tr. Gos. Optich. Inst. 2, #23, 1924) was used for the quantitative determination of the plane supersonic jump. It is based on the comparison of the light intensity in the center of the diffraction pattern at the plane jump and at the opaque border. The theory of the method is based on the assumption of a point source and an infinite slit, the jump being parallel to the knife of the shadow apparatus. Corrections are developed to account for the deviations of actual conditions from the ideal ones. The theoretical results are compared with the experiments in a shock tube on a model which was a wedge of  
Cord 1/2

ACCESSION NR: AP4042201

60°. The agreement between the theoretical and experimental results shows that the method can be used in the investigations of gasodynamical fluxes by establishing the connection between the velocity of the shock waves and the optical phase change before and after the discontinuity. Orig. art. has: 4 figures and 1 table

ASSOCIATION: None

SUBMITTED: 02Jan64

ENCL: 00

SUB CODE: OP, ME

NR REF SOV: 002

OTHER: 003

Card 2/2

ACCESSION NR: AP4041052

S/0120/64/000/003/0195/0199

AUTHOR: Vasil'yev, L. A.; Galanin, A. G.; Yershov, I. V.; Suntsov, G. N.

TITLE: Photoelectric shadow method for investigating transient processes

SOURCE: Pribory\* i tekhnika eksperimenta, no. 3, 1964, 195-199

TOPIC TAGS: transient process, aerodynamic test, shock tube, shock tunnel instrumentation

ABSTRACT: As spark shadow photography yields only one picture and as superhigh-speed cinema is technically very difficult, a new shadow method is suggested which permits obtaining a time picture on an oscillograph screen. The method, intended for aerodynamic shock-tube studies, involves an optical scheme shown in Enclosure 1. A small-size diaphragm D is placed after the Foucault knife edge H. The light passed through the diaphragm falls on a multiplier phototube M whose signal is applied to a pulsed electron oscillograph. An

Card 1/3

ACCESSION NR: AP4041052

inhomogeneity I between  $O_1$  and  $O_2$  causes a variation in the illumination of the diaphragm port and, therefore, is recorded by the oscillograph. A 2-slit scheme permits measuring flow speeds (of the shock front and after region). Speed of the contact surface, duration of and nonequilibrium processes in the working flow, gas glow after the shock wave, and impurity-caused glow were measured by the above method. Orig. art. has: 9 figures.

ASSOCIATION: none

SUBMITTED: 04Jun63

ENCL: 01

SUB CODE: AC

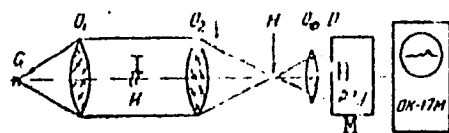
NO REF SOV: 002

OTHER: 003

Card 2/3

ACCESSION NR: AP4041052

ENCLOSURE: 01



Optical scheme of the photoelectric shadow method

Card 3/3

VASIL'YEV L. A.

24-11-27/31

AUTHORS: Vasil'yev, L. A., Semenov, S. S. and Tarantov, Ye. A. (Moscow)

TITLE: Study of the physical processes inside a shock-tube by means of high speed photography. (Izucheniye fizicheskikh protsessov v udarnoy trube pri pomoshchi vysokoskorostnogo fotografirovaniya).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Tekhnicheskikh Nauk, 1957, No. 11, pp. 186-188 + 2 plates.

ABSTRACT: Hertzberg (Ref. 2) has investigated shock waves by means of a film camera with a filming speed of 13 000 frames per second. This speed is too low for detailed investigation of the process since numerous details are blurred and neither the main shock wave nor their contact surface can be observed on the thus produced exposures. In the here described experiments, a set-up was used which enables a filming speed of 100 000 frames per second, a sketch of which is shown in Fig. 1, p. 186; thus, it was possible to obtain a complete picture of the flow around the model for each 10 u secs. The data obtained for wedge-shaped models and for the angles of propagation of weak disturbances in the flow can be utilised for evaluating the thermodynamic properties of

Card 1/2



24-11-27/31

Study of the physical processes inside a shock tube by means of high speed photography.

the investigated gases. Two plates are included containing 23 exposures each of the flow around a semi-wedge and around a symmetrical wedge. The measured speed of the shock wave near to the observation point and the density ratios in the shock can be utilised for determining the real dissociation energy of the gas. Finally, the  $c_p/c_v$  ratio can also be calculated. There are 5 figures and 5 references, two of which are Slavic.

SUBMITTED: July 9, 1957.

AVAILABLE: Library of Congress.

Card 2/2

VASIL'YEV, L.A.

Improving the IAB-451 instrument. Nauch.dokl.vys.shkoly; mash.i  
prib. no.4:230-237 '58. (MIRA 12:5)

1. Predstavleno kafedroy "Optika" Moskovskogo gosudarstvennogo  
universiteta im. Lomonosova.  
(Optical instruments)

VASIL'YEV, L.A.; TARANTOV, Ye.A.

Effective light pulse duration. Usp.nauch.fot. 6:113-115 '59.  
(MIRA 13:6)

(Electric discharge lighting)  
(Motion-picture photography--High speed)

VASIL'YEV, L.A.; SKOTNIKOV, M.M.

Diffraction phenomena observed when using the knife and slot  
shadow photometric method. Dokl. AN SSSR 143 no.3:578-581 Mr  
'62. (MIRA 15:3)

1. Predstavleno akademikom G.I.Petrovym.  
(Photometry)(Diffraction)

VASIL'YEV, L.A.; MININA, V.P.

Using the shlieren system of photographic measurements for the quantitative investigation of the supersonic flow around the aerofoil. Zhur.nauch. i prikl.fot. i kin. 8 no.5:337-342 S-0 '63. (MIRA 16:9)

S/051/63/014/004/017/026  
E059/E420

AUTHORS: Vasil'yev, L.A., Sinoglazov, C.M.

TITLE: Diffraction restrictions of the phase contrast method  
and the limits of applicability of the vector theory

PERIODICAL: Optika i spektroskopiya, v.14, no.4, 1963, 553-558

TEXT: Vector theory does not take into account diffraction effects in the mounting of the principal objective and of the diaphragm in the plane of the image. Changing the parameters of optical systems does not reduce diffraction errors below a certain optimum value. Any change of auxiliary parameters aimed at decreasing the effect of any factor influencing the error leads to an increase in the general error because of the effect of other factors. For a real optical system the optimum value of the error varies between 5 and 10%. A decrease of this error is possible only by increasing the speed of the principal objective, increasing the size of the diaphragm in the focal plane and decreasing the wavelength of the light used. The results obtained by the application of the phase contrast method can only be satisfactorily examined by the use of diffraction theory. There is 1 figure.  
Card 1/1

SUBMITTED: May 7, 1962

L 41766-65 EPF(c)/EPF(n)-2/ENG(j)/EWA(h)/ENP(j)/EWT(m)/T/EWA(1) PC-4/Pr-4/Fu-4/  
Feb 65/RM  
ACCESSION NR: AP4032561 S/0190/64/006/004/0608/0614

AUTHORS: Slovokhotova, N. A.; Il'icheva, Z. F.; Vasil'yev, L. A.; Kargin, V. A.

TITLE: Effect of ionizing radiation on the structure of polypropylene

SOURCE: Vysokomolek. soyedin., v. 6, no. 4, 1964, 608-614

TOPIC TAGS: polypropylene, irradiation, polymer, IR absorption, spectrophotometer / N-800 spectrophotometer

ABSTRACT: Films of isotactic and commercial amorphous polypropylene were prepared by hot pressing. They were irradiated in a vacuum ( $10^{-4}$  mm) at 25 and  $-196^{\circ}\text{C}$  by fast electrons from an acceleration tube (voltage of accelerating field = 200 kv) and by  $\text{Co}^{60}$  gamma rays. Infrared spectra of the initial and irradiated specimens were recorded on an N-800 spectrophotometer. Absorption bands at 890 and  $910\text{ cm}^{-1}$  for irradiated specimens correspond to the double bands  $\begin{matrix} R \\ | \\ C=CH_2 \\ | \\ R \end{matrix}$  and  $\begin{matrix} R \\ | \\ C=CHR \\ | \\ R \end{matrix}$ . These bands are due to degradation of polypropylene through radiation. Bands in the 815-855 region and at  $1665\text{ cm}^{-1}$  correspond to  $\begin{matrix} R \\ | \\ C=CHR \\ | \\ R \end{matrix}$  bonds in the

Card 1/3

1 10000005

APPROVED FOR RELEASE: 08/31/2001

APPROVED FOR RELEASE: 08/31/2001

bands observed in the spectrum of the polymer, on the temperature of irradiation. The number of specimens irradiated at a given temperature is 10. The number in amorphous polypropylene may be 10 times the number of the crystalline polypropylene (other factors being the same). Electron paramagnetic resonance spectra show that heating irradiated specimens above 200°C gives rise to free polyene radicals, and this indicates that the double bonds migrate along the polymer chain. The crosslinking of the polymer leads to the appearance of lower frequency bands in the spectrum. Crosslinking with an unpaired electron of the radical lowers the oscillation frequency of the double bond also. Increase in absorption in the  $1645\text{ cm}^{-1}$  region may take place by double bond absorption in the allyl radical, the oscillation frequency of which is lowered because of the crosslinking of  $\pi$ -electrons of the double bond with an unpaired electron of the radical. Orig. art. has: 2 figures, 1 table, and 2 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karпова (Scientific Research Physico-chemical Institute)

Card 2/3



L 41756-65

ACCESSION NR: AP4032561

SUB CODE: 00

SUBMITTED: 08Apr63

ENCL: 00

NO REF SOV: 003

OTHER: 006

Card 3/3

VASIL'YEV, L.A.

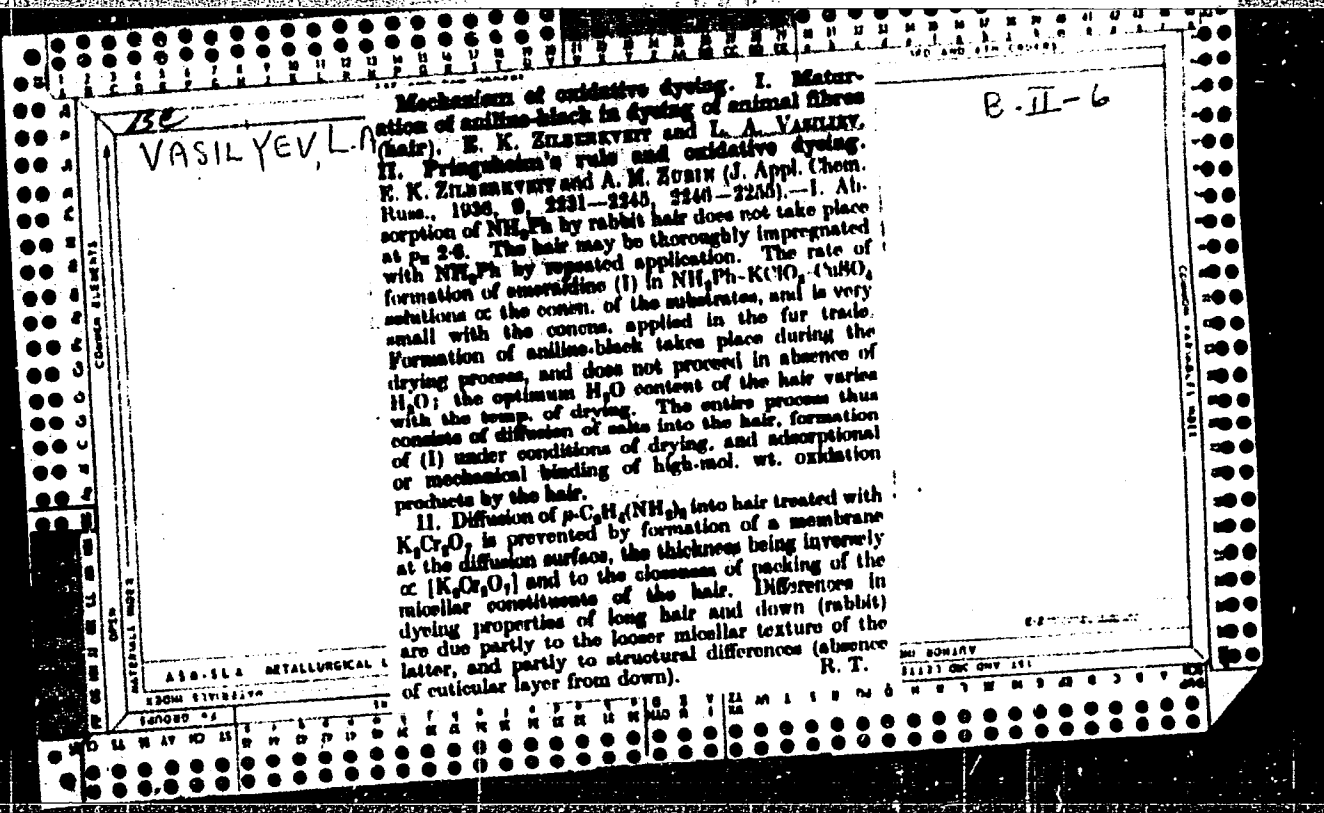
Use of the shadow diffraction method in determining the phase  
in the discontinuities of a plane wave front. Dokl. AN SSSR  
157 no.4:830-833 Ag '64 (MIRA 17:8)

1. Predstavleno akademikom I.V. Obreimovym.

PANCHENKOV, G.M.; KOZLOV, L.L.; YAKOVLEV, V.I.; KATSOBASHVILI, V.Ya.;  
VASIL'YEV, L.A.; RYABUKHIN, Yu.S.

Polymerization of amylenes under the action of high-energy  
electrons. Izv. vys. ucheb. zav.; neft' i gaz 5 no.1:57-58  
'62. (MIRA 16:11)

1. Moskovskiy institut neftekhimicheskoy i gazovoy  
promyshlennosti imeni akademika I.M. Gubkina.



27

ca

Rapid colorimetric determination of wool fat. F. K. Zilberkvit and L. A. Vasil'ev. *J. Applied Chem.* (U. S. S. R.) 10, 570-7 (in German) 1937. A sample of wool (0.5 g.) is boiled in a test tube provided with a reflux condenser with 5-10 cc. of  $\text{CHCl}_3$  or  $\text{C}_2\text{H}_5\text{Cl}$  and the resulting mixt. is filtered. The residue is washed with pure  $\text{CHCl}_3$  and an aliquot from the combined filtrate is treated with 1 cc. of  $\text{Ac}_2\text{O}$  and 10 drops of concd.  $\text{H}_2\text{SO}_4$  for 3-4 min., and colorimetrically compared with series of standard solns. The standard solns. are prepd. by diluting 10, 20, 30, 40, etc., up to 100 cc. of the reagent ( $\text{C}_2\text{H}_5\text{NO}_2$ ,  $3\text{H}_2\text{O}$  762 and  $\text{K}_2\text{Cr}_2\text{O}_7$  4.5 g./l. of water) with water to 100 cc. and are calibrated against known solns. of wool fat in  $\text{CHCl}_3$ . The method is based on the Liebermann and Burchard (*Ber.* 17, 1804 (1885)) color reaction. Thirteen references. A. A. Podgorny.

AS 53.514 METALLURGICAL LITERATURE CLASSIFICATION

25

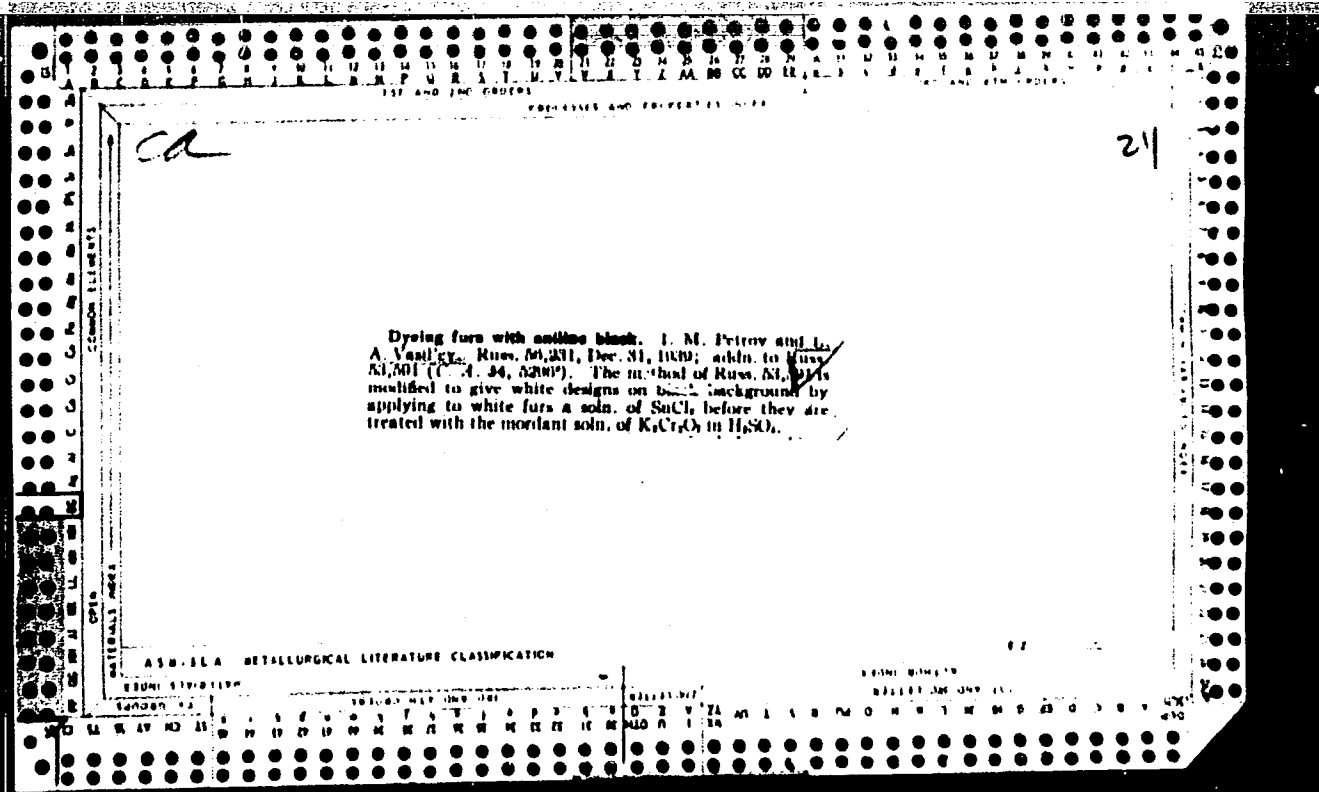
PROCESSES AND PROPERTIES INDEX

Dyeing furs with aniline black. I. A. Yasilev. Russ. 53,591, July 31, 1938. Mordanted fur is treated in an aniline vat contg. a reducing agent, such as  $K_4Fe(CN)_6$  or a mixt. of hyposulfite with  $CuSO_4$ , washed with a soln. of  $NaCl$  and oxidized in the usual manner.

ASIM-SLA METALLURGICAL LITERATURE CLASSIFICATION

RECORDS

Materials Index  
 Processes and Properties Index  
 Chemicals Index  
 Metallurgical Literature Classification  
 Records



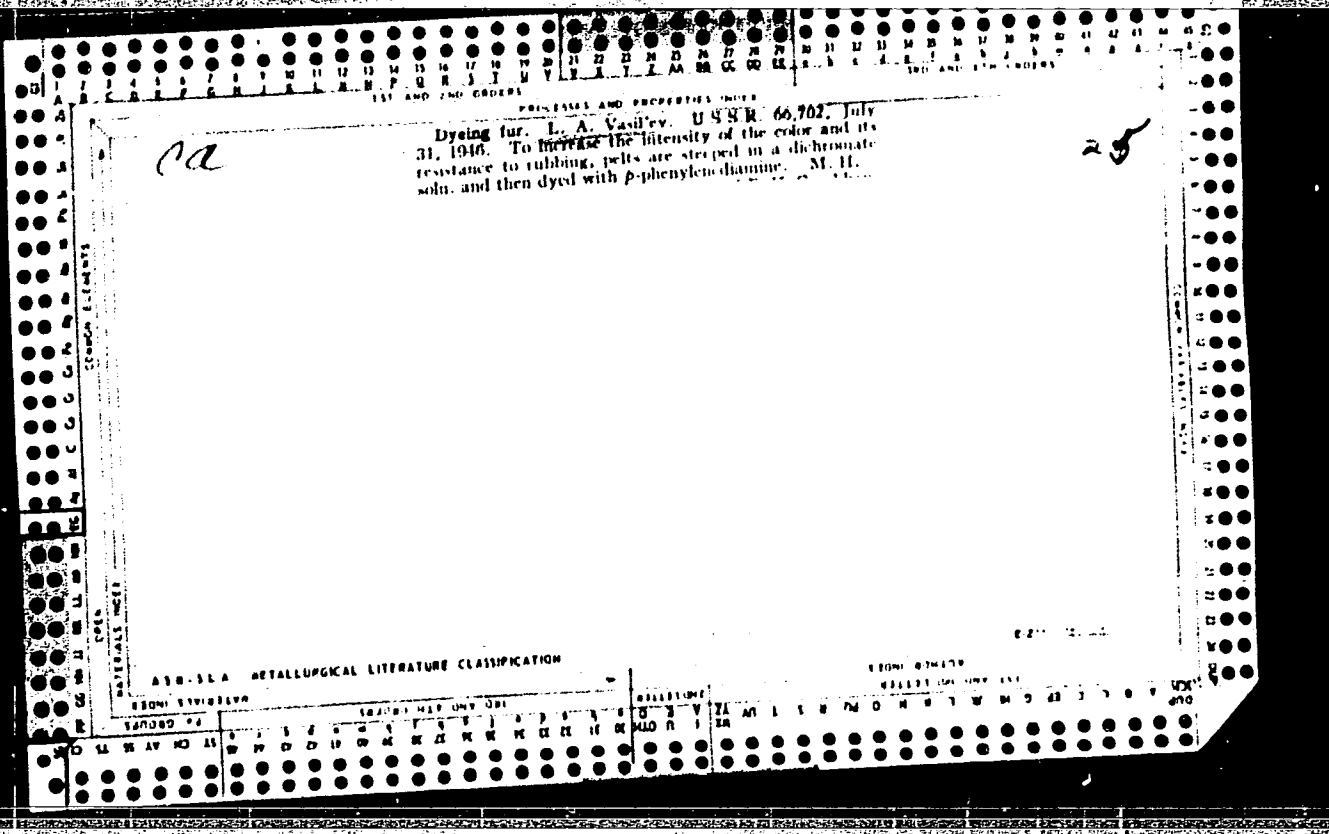
PROCESSES AND PROPERTIES

Dyeing furs without hydrogen peroxide. L. A. Vasil'ev.  
*Legkaya Prom.* 18, No. 5, 64-8(1939); *Khimia & in-*  
*dustria* 43, 333.—Furs are dyed in H<sub>2</sub>O<sub>2</sub> by means of dye-  
stuffs of the ursol group, which are intermediate products  
such as the phenylenediamines, the polyphenols, the  
aminophenols and their derivs. Intense mordanting with  
K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> is first carried out, and the pH of the bath is then  
raised by addn. of NH<sub>3</sub> to retard the reaction by which the  
dye is fixed on the fiber. A. Papineau-Couture

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
CLASSIFICATION																										





SLAVINSKAYA, N.A.; KAMENETSKAYA, S.A.; PSHEZHETSKIY, S.Ya.;  
VASIL'YEV, L.A.

Influence of ionizing radiation on the oxidation kinetics  
and ignition of butane. Zhur.fiz.khim. 34 no.6:1169-1175  
Je '60. (MIRA 13:7)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova, Moskva.  
(Butane) (Electrons) (Oxidation)

L 55205-65

EWG(j)/SWT(l)/SWT(m)/EWG(v)/SWT(s) (RRD(+)) T/RRD(-) 2 TWA

SWA(1) Pc-4/Pc-5/Pab/P1-4 IJ2(s) RM

ACCESSION NR: AR5012259

JP/0058/65/000/003/0035/0035

SOURCE: Ref. zh. Fizika, Abs. 3D258

21  
B

AUTHOR: Sadovskaya, G. K.; Slovokhotova, N. A.; Vasil'yev, L. A.; Kargin, V. A.

TITLE: Use of infrared spectroscopy to study the effect of fast electrons on polyamides

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 483-487

TOPIC TAGS: molecular spectroscopy, electron paramagnetic resonance, electron bombardment, polyamide

TRANSLATION: Kapron, enant, pelargon and undecane were bombarded with fast electrons and their infrared spectra studied. Changes were observed in the configuration of the chains and the formation of double bonds in the 980  $\text{cm}^{-1}$  band and of ion radicals in the 2150  $\text{cm}^{-1}$  band were also observed. The data was compared with measurements from the electron paramagnetic resonance spectra. The mechanism for processes that occur in the irradiation of polyamides is proposed.

Card 1/2

VASIL'YEV, L.A.; GALANIN, A.G.; YERSHOV, I.V.; SUNTSOV, G.N.

Photoelectric shadow method of study of nonsteady-state processes.  
Prib. i tekh. eksp. 9 no.3:195-199 My-Je '64 (MIRA 18:1)

ADVERSE ...  
... molecular

aerodynamic characteristics ... through a small aperture ...  
dispersion caused by the surface of ...  
is selected in such a manner that the characteristics of the light reflected from  
the surface of the model are identical with those of reflected molecules of the ...

L 10068-67 INT(1)/INT(m) IJP(c) GG/GH

ACC NR: AP6029997

SOURCE CODE: UR/0413/66/000/015/0197/0197

INVENTORS: Vasil'yev, L. A.; Travnikova, L. I.

37

ORG: none

TITLE: A method for determining the resultant of the light pressure forces on a body of a complex shape. Class 62, No. 164155

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 197

TOPIC TAGS: light radiation effect, motion mechanics, pressure effect

ABSTRACT: This Author Certificate presents a method for determining the resultant of the light pressure forces on a body of a complex shape. The method is based on measuring the reflected light and is designed to increase the precision and to shorten the time of the determination. An optical wedge with a transparency which varies linearly (from zero at the center to one at the edge) is mounted in front of the two photoelectric cells in the image plane of the body being studied. This test body is illuminated by a light source. The optical wedge is moved in respect to the image until there is an equalization of the signals from the two cells of the wedge. A straight line is determined on which the point of application of the resultant of the light pressure forces of the light reflected in the given direction is found. Then the angular position of the optical system is changed in respect to the test body, and

Card 1/2

UDC: 535.214

L 10068-67

ACC NR: AP6029997

the measurement process is repeated. The point of application of the resultant is determined by the intersection of the straight lines which are obtained. The optical system mounted in front of the two photoelectric cells consists of one cylindrical and two spherical lenses with a screen between them. The screen has a diaphragm in the form of two symmetrically positioned wedge-shaped apertures. The screen is moved until the light fluxes from both apertures are equalized. When this is done the straight lines on which the resultant is located pass through the center of the diaphragm. A nontransparent screen having a rectilinear border is mounted in front of the photoelectric cell. This screen is repeatedly shifted in a direction perpendicular to the rectilinear border from a position in which it completely cuts off the image to a position at which the whole image is exposed. Measurements of the illumination are made at the different positions. When this is done, the straight line on which the resultant is found is located at a distance from the border of the screen at which the last measurement was conducted. This distance is obtained as the quotient of the division of the sum of all illumination measurements by the value of the illumination at the last measurement.

SUB CODE: 20/

SUBM DATE: 25Jul64

Card 2/2

AUTHOR

SI Vokhotova, N. A. (Minsk); Shchegolev, L. A. (Minsk)

TITLE: Investigation of the structure of poly(vinyl chloride) <sup>644.65</sup>

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 8, 1965, 1306-1309

50  
47  
B

TOPIC TAGS: polyvinyl chloride, conjugated polymer, IR analysis, ionizing radiation, polymer structure

ABSTRACT: <sup>644.65</sup> The effect of <sup>ψ</sup> ionizing radiation on the structure of poly(vinyl chloride) has been studied by IR spectroscopy. Irradiation was carried out in vacuum at 200°C. The effect of ionizing radiation on the structure of poly(vinyl chloride) was studied by IR spectroscopy. The results show that the structure of poly(vinyl chloride) changes under the action of ionizing radiation. The results show that the structure of poly(vinyl chloride) changes under the action of ionizing radiation.



L 64767-65

ACCESSION NR: AP5020962

with 800 Mrad at 20C caused an increase in the conjugated double bond concentration and the appearance of aromatic systems. Orig. art. has: 1 figure and 2 formulas. [SM]

ASSOCIATION: Fiziko-khimiicheskiy Institut im. I. Ya. Karpova (Physicochemical Institute)

SUBMITTED: 01Aug64

ENCL: 00

SUB CODE: OC, OP

NO REF SOV: 000

OTHER: 011

ATD PRESS: 1080

Card

81561

S/076/60/034/06/03/040  
B015/B061

11.1000  
5:45:08  
AUTHORS:

Slavinskaya, N. A., Kamenetskaya, S. A., Pshezhetskiy, S. Ya.,  
Vasil'yev, L. A. (Moscow)

TITLE:

The Influence of Ionizing Radiation<sup>1</sup> on the Kinetics of the  
Oxidation and Ignition of Butane. I. Formal Kinetics

PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol. 34, No. 6,  
pp. 1169-1175

TEXT: The influence of fast electrons and of a static discharge on the formal kinetics of the chain reaction of butane oxidation with oxygen was examined. An electron accelerator was used, and the pressure in the reaction vessel was changed from 582 to 640 torr, and the temperature from 40 to 254°C. The strength of the discharge current was measured with an MBJ-2M (MVL-2M) cathode voltmeter. It was established that irradiation with fast electrons accelerated the butane oxidation and decreased the induction period and the effective activating energy. The latter falls from 45 to 15 kcal/mole with an increase in the radiation intensity. The effect of radiation on the reaction kinetics is mainly due to the

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The Influence of Ionizing Radiation on the  
Kinetics of the Oxidation and Ignition of  
Butane. I. Formal Kinetics

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B015/B061

formation of primary active centers of the chain reaction in the ionization and excitation of the molecules, and to the reactions of atomic oxygen with carbon. On the basis of N. N. Semenov's theory of branched chain reactions, the results of the tests were analyzed, and agreement with the theory was established (Table 1, data on the rate of formation of active centers and chain reactions; Table 2, values of the effective activating energy). Tests on the ignition of butane with oxygen in a vessel heated to 520°C showed that radiation shortens the induction period of the ignition of the mixture, and that the character of the dependence corresponds to that of the effect of radiation on the kinetics of the oxidation. N. M. Emanuel' is mentioned in the text. There are 6 figures, 2 tables, and 4 Soviet references.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova Moskva  
(Physicochemical Institute imeni L. Ya. Karpov, Moscow)

SUBMITTED: May 25, 1958

Card 2/2

VASIL'YEV, L.B.

Mechanization of heavy manual work at the Moscow Plant of  
Small Automobiles. Mekh. i avtom. proizvod. 18 no.11:42-45  
N '64 (MIRA 18:2)

1. Direktor Moskovskogo zavodamalolitrzhnykh avtomobiley.

VASIL'YEV, L.G. (Belgorod)

Organizing the management of rural public health service under  
new conditions. Zdrav. Ros. Feder. 7 no.8:12-14 Ag'63.  
(MIRA 16:10)

(BELGOROD PROVINCE — PUBLIC HEALTH, RURAL)

GEYNRIKHS, Georgiy Karlovich; YANKEVICH, I.P., kand. tekhn.  
nauk, retsenzent; ARKHAROV, A.M., kand. tekhn.nauk,  
retsenzent; VASIL'YEV, L.G., nauchn. red.; NIKITINA,  
R.D., red.; KRYAKOVA, D.M., tekhn. red.

[Ship and coastal oxygen plants] Sudovye i beregovye kis-  
lorodnye ustanovki. Leningrad, Sudpromgiz, 1963. 341 p.  
(MIRA 16:12)

(Oxygen) (Gases--Seperation)

VASIL'YEV, Leonid Georgiyevich; LEVIN, Samuil Mironovich; KRIVCHENOK,  
I.Ye., red.; POD'YEL'SKAYA, K.M., tekhn.red.

[Public Health Service in Karelia] Zdravookhranenie Karelii.  
Petrozavodsk, Gos.izd-vo Karel'skoi ASSR, 1960. 93 p.  
(MIRA 14:4)

(KARELIA--PUBLIC HEALTH)

VASIL'YEV, L.G.; LEVIN, S.M.

Work with medical personnel in the Karelian A.S.S.R. Zdrav.Ros.Feder.  
4 no.11:27-29 '60. (MIRA 13:11)

1. Zamestitel' ministra zdravookhraneniya i sotsial'nogo obespecheniya  
Karel'skoy ASSR (for Vasil'yev). 2. Zaveduyushchiy organizatsionno-  
metcdicheskim kabinetom Respublikanskoy bol'nitsy Karel'skoy ASSR  
(for Levin)

(KARELIA--MEDICAL PERSONNEL)



VASIL'YEV L.G.

AUTHOR: Vasilev, L.G., Candidate of Technical Sciences. 346

TITLE: Leakage of steam through the assembly gaps between individual turbine nozzles. (Utechki para cherez montazhnye zazory mezhdu soplami turbin.)

PERIODICAL: "Energomashinostroenie", (Power Machinery Construction), 1957, No. 3, pp. 16 - 17, (U.S.S.R.)

ABSTRACT: The permissible values for these gaps is about 0.05 mm for steam turbines; for gas turbines it can be considerably higher, depending on the maximum temperature of the operating medium. In this paper, the results are described of experimental investigations on a test stand for an arrangement, as shown in Fig. 1, of the leakages of super-heated steam with initial temperatures of 250 - 300 °C and initial pressures varying between 1 and 15 atm; after working, the steam was let out into the atmosphere. The obtained results are summarised in graphs 2 and 3 and the table, p. 16, for gaps in the cold state equalling 0.05, 0.08 and 0.11 mm. The graph, Fig. 5, shows the leakage of the super-heated steam through these gaps for all the 3 gap widths. The investigations covered convergent as well as divergent nozzles, sketches of which are produced in Fig. 4.  
5 figures, including 3 graphs, one table.

VASIL'YEV, L.G., kandidat tekhnicheskikh nauk.

Design and building of atomic powered warships and freighters  
in foreign countries. Sudostroyeniye 23 no.5:59-63 My '57.(MIRA 10:6)  
(United States--Atomic ships)

VASIL'YEV, L.G., kandidat tekhnicheskikh nauk.

Gas turbine power plant on the transport "John Sargent" (from  
foreign periodicals). Sudostroenie 23 no.7:48-52 J1 '57.  
(United States---John Sargent (Ship)) (MLRA 10:8)  
(Marine gas turbines)

*VASIL'YEV, L.G.*  
VASIL'YEV, L.G., kand.tekhn.nauk

Determining areas in straight turbine bladings. Sudostroenie  
23 no.9:24-31 S '57. (MIRA 10:12)  
(Marine gas turbines)