

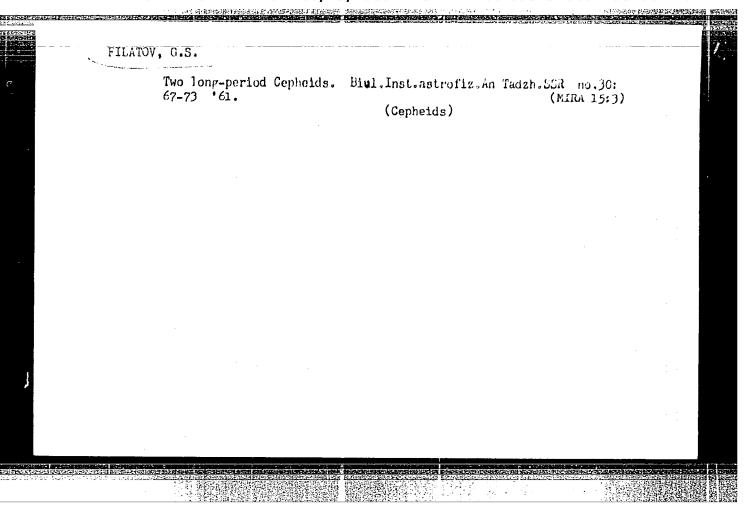
Three variable stars. Per.zvezdy 12 no.3:223-226 Mr '58. (MIRA 13:4) 1. Stalinabadskaya astronomicheskaya observatoriya. (Stars, Variable)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413020012-8"

FILATOV, G.S.

Uninvestigated variable stars in the BV lists. Astron.tsir. no.215:20-22 0 '60. (MIRA 17:3)

1. Institut astrofiziki AN Tadzhikskoy SSR. (Stars, Variable)



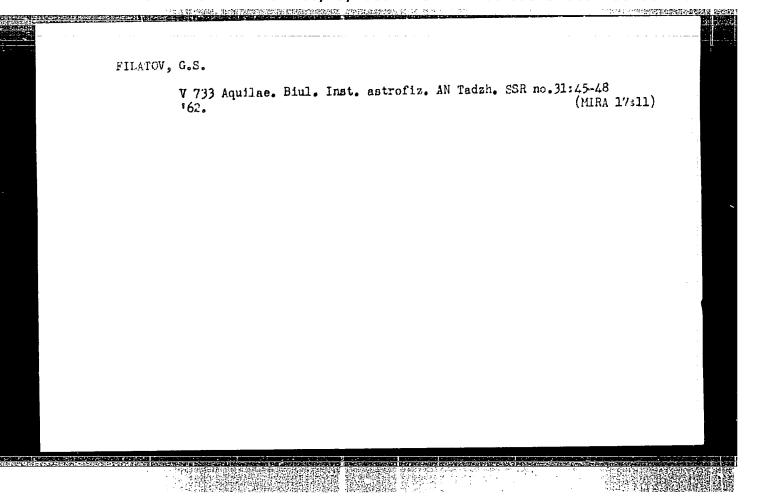
Twelve uninvestigated variable stars. Astron.tsir. no.223:24-26
Jl '61. (MIRA 15:3)

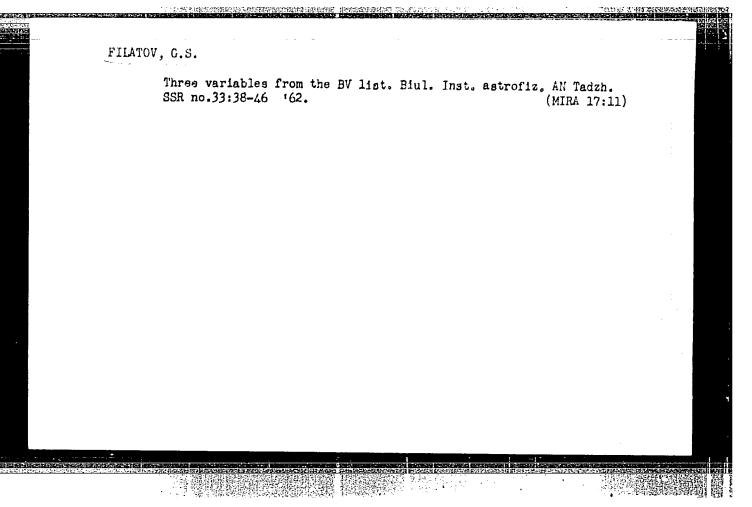
1. Institut astrofiziki AN Tadzhikskoy SSR. (Stars, Variable)

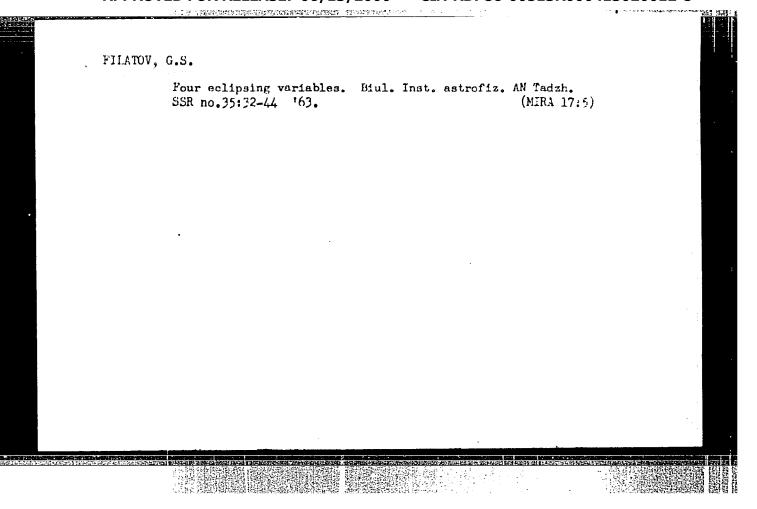
FILATOV, G.S.; TSESEVICH, V.P.

Cepheid BR Vulpeculae. Per. zvezdy 1/4 no.2:109-114 Je 162. (MIRA 17:2)

1. Odesskaya astronomicheskaya observatoriya i Institut astrofiziki AN Tadzhikskoy SSR.







Author: Filatov, G. V.

Title: The Meval Planer. (Vytiazhnye zonty i shkafy.) 67 p.

City: Nescow Publisher:

Publishers Ministry of Definse Industry

Data: 1946

Available: Library of Congress

Source: Monthly List of "useian Accessions, Vol. 3, No. 12, p. 838

FILATOV, G. V.

JIB Sum. Sov. Periodicals, #60, May 51. Page 5, par. 21

Accession list of Russian books, March 51

Filatov, G. V., The presser and the hydraulic press. Pressovshchik na Gidropresse. Recommended by the Adm of personnel of the Ministry for the training of the staffs of aircraft factories. Sc. and Res. Inst. of Technology and Organization of Production of the airdraft industry, Ministry of the Aircraft Industry USSR. Moscw. State Publishers of the Industry for Defense 1947, pp. 67, illus., tabs., 22xlk, gray wrappers.

PHASE I BOOK EXPLOITATION

SOV/3857

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo

Vysokoproizvoditel naya tekhnologicheskaya osnastka (High-Productivity Auxiliary Processing Equipment) Moscow, Mashgiz, 1960. 174 p. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (title page): V. V. Kuz'min; Ed. (inside book): S. L. Martens; Tech. Ed.: L. P. Gordeyeva; Managing Ed. for Literature on Metalworking and Machine-Tool Construction (Mashgiz): V. V. Rzhavinskiy, Engineer.

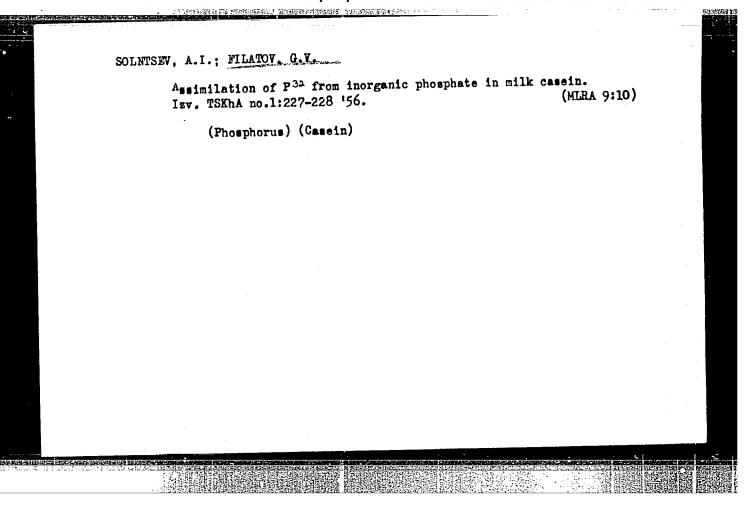
PURPOSE: This collection of articles is intended for technical personnel engaged in the development of auxiliary equipment for metal processing.

COVERAGE: This collection contains articles dealing with modern machinetool suxiliary equipment, methods of manufacture, and data on the introduction of such equipment into production. The engineering and

Card 1/6

•	High-Productivity Auxiliary Processing Equipment S07/3857	
·	economic aspects of the use of standardized auxiliary equipment are also discussed. No personalities are mentioned. References follow each article.	
	TABLE OF CONTENTS:	
,	Introduction	3
	Proskuryakov, A. V. [Candidate of Technical Sciences]. Engineering and Economic Bases for the Use of Auxiliary Processing Equipment The author indicates the economy in cost and materials and the increased efficiency brought about by the use of standardized fixtures and auxiliary equipment.	7
	Naydov-Zhelezov, Ch. G. Economic Effectiveness of the Standardization of Auxiliary Processing Equipment in Machine Manufacture The author presents a cost analysis showing the savings resulting from the introduction of standardized auxiliary processing equipment.	21
	Filatov, G. V. Basic Trends in the Standardization of Auxiliary Processing Equipment	30
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High-Productivity Auxiliary Processing Equipment SCV/3857	
The author describes methods of planning lot production of machines. Emphasis is given to the design and manufacture of equipment for producing accessories.	
Mikheyev, N. V. [Engineer]. Machine-Tool Fixtures of Advanced Design for Lot and Small-Lot Production The author describes universal adjustable fixtures for machine tools and the characteristics of their construction.	: 38
Chernyshev, V. M. Standard-Unit Machine-Tool Fixtures for Lot Production The author discusses the advantages of group machining of parts employing fixtures assembled from standard parts and subassemblies.	n 62
Kiznetsov, V. S., and V. A. Ponomarev. Experience Gained in the Use of Standard-Unit Fixtures in Experimental and Lot Production The authors discuss organization of the workplace for the assembly of universal standard-unit fixtures. Mounting methods are also discussed.	70
Yatsenko, G. G. Promotic Clamping Devices for Universal Standard-Unit Fixtures Card 3/6	84



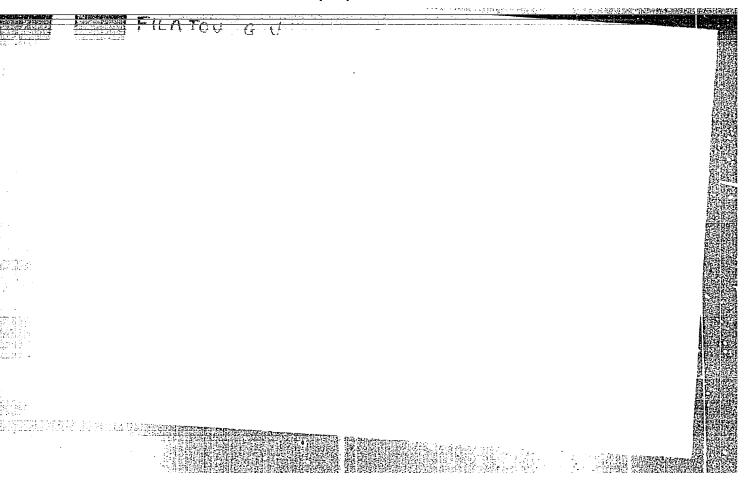
FILATON, G. U.

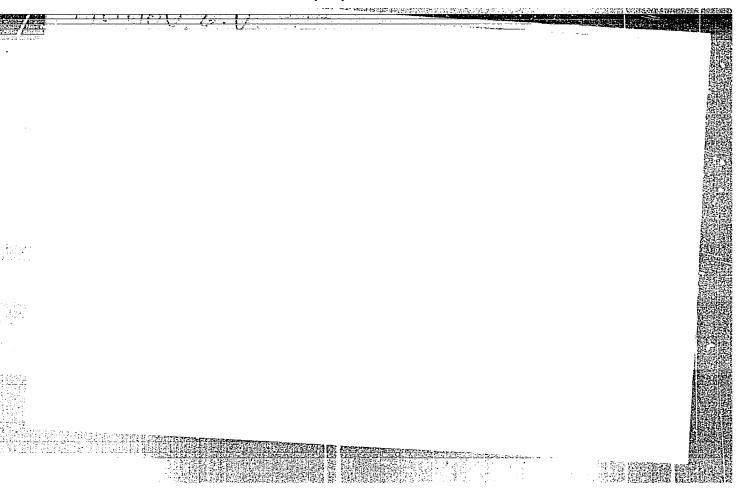
"Concerning Calcium Metabolish in Ruminants in an Investigation Using Calcium 45," by A. I. Solntsev and G. V. Filatov, Zhivotnovodstvo (Animal Husbandry), No 12, 1956, pp 53-55 (from Referativnyy Zhurnal -- Khimiya, Biologicheskaya Khimiya, No 8, 25 Apr 57, Abstract No 8661, by A. Verloochenko, p 83)

"Three-ml solutions of Ca⁴⁵Cl₂ containing 500 mg Ca were administered intramuscularly into goats. Two hours after this injection, the amount of Ca⁴⁵ excreted per ml milk equalled 6.4 thousand impulses per minute; seven hours after the injection, the activity per one ml milk was 45 thousand impulses per minute; and 24 hours after the injection, it amounted to 60.1 thousand impulses per minute per ml milk.

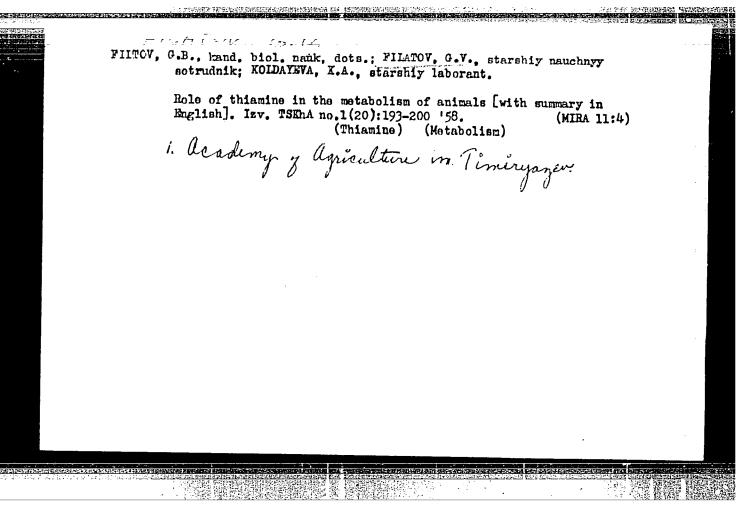
"Subsequently, calcium radioactivity in the milk commenced to decrease gradually, and in two months it equalled 0.6 thousand impulses per minute per ml milk. During this same period, twice as much Ca⁴⁷ was excreted with the milk as with the feces." (U)

Sum 1'10 1451





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ZHEREETSOY, P.I., prof.; GEORGIYEVSKIY, V.I.; POLYAKOV, I.I.; PILATOV,
G.V.; BURCHENKO, Ye.V.; PARSADANOVA, K.G., red.; PAVLOVA, V.A.,
tekhn.red.

[Practical work in the physiology of farm animals] Praktikum
po fiziologii sel'skokhoziaistvennykh zhivotnykh. Pod red.
P.I.Zherebtsova. Moskva, Gos.izd-vo "Yysahaia shkola," 1959.
447 p.
(WIRA 13:7)
(Veterinary physiology--Study and teaching)

ZHEREBTSOV, P.I., doktor biol.nauk, prof.; FILATOV, G.V., kand.biol.
nauk

Calcium metabolism in poultry during ontogeny. Izv.TSKbA
no.4:143-154 '59.
(Poultry) (Calcium metabolism)

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radiati out of o	on in inverganization of	stigation of some insects.	absorption	and
Approximate t	ranslation of t	itle - document	blurred - unable	e to make out letters.)
adiation in t	ed to the Symp. he Control of P 22-26	lant and Animal	Application of F Insect Pests.	Radioistopes and

BUKIN, A.L., aspirant; FILATOV, G.V., nauchnyy rukovoditel' raboty, kand. biol.nauk

Toxicity of sevin to mammals and birds. Veterinariia 42 no.11:93-95 N *65. (MIRA 19:1)

l. Vsesoyuznyy nauchno-issledovatel'skiy institut veterinarnoy sanitarii.

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CIA-RDP86-00513R000413020012-8

ACC NR: AP6029981 (A; N) SOURCE CODE: UR/0413/66/C00/015/0193/0193

THYPHYORS: Putoyn, D. P.; Gusov, A. I.; Filatov, G. V.; Dartau, A. N.; Mazayev, A. N.; Novak, G. A.; Yelagin, P. Ya.; Khvatov, A. I.; Dyukov, A. I.; Khropik, B. A.

ORG: none

TIPLE: A shop for assemblying large structures of flying machines. Class 62, No. 184138

SCURCE: Izobret prom obraz tov zn, no. 15, 1966, 193

TOPIC TAGS: construction machinery, aircraft

ABSTRAOT: This Author Certificate presents a shop for assemblying large structures of flying machines. The shop contains columns sunk into the foundations, horizontal beams fixed on top of the columns, cups with fixing devices, and clevices holding receptors and wedges. To shorten the assembly time and to rearrange the shop repeatedly, bearing plates are fixed to the columns, beams, and cups. These plates have a network of coordinating holes which receive pins connecting the plates to one another. The fixing devices of the cups are tied to the coordinating holes in the spacing strip placed in an aperture in the beam. The bottom of this

Card 1/2

VDC: 629.13.01/06

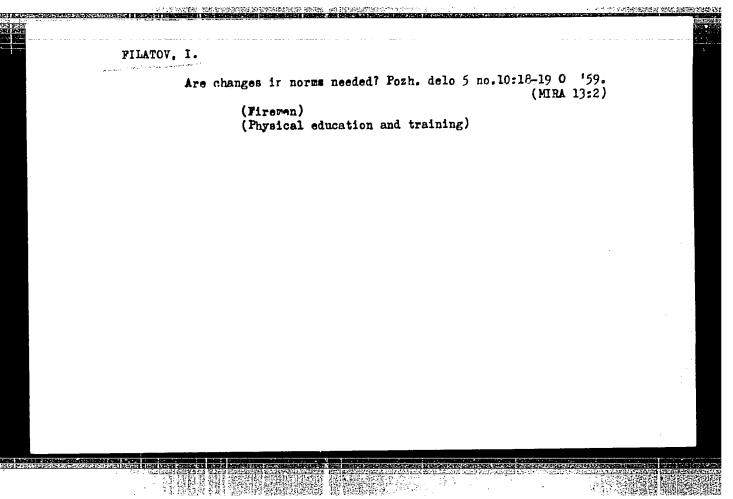
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aperture also contains	(coordinating holes for	fixing the separating	~	:
plate of the horizonta	l beam.		_	:
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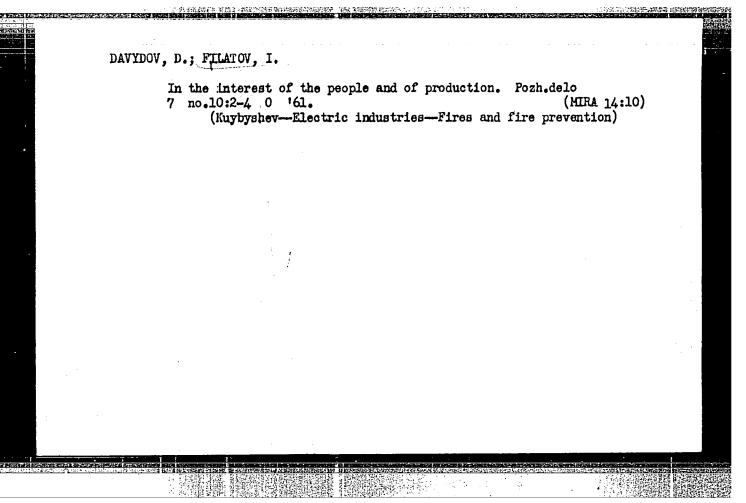
FILATOV, I. Eng.

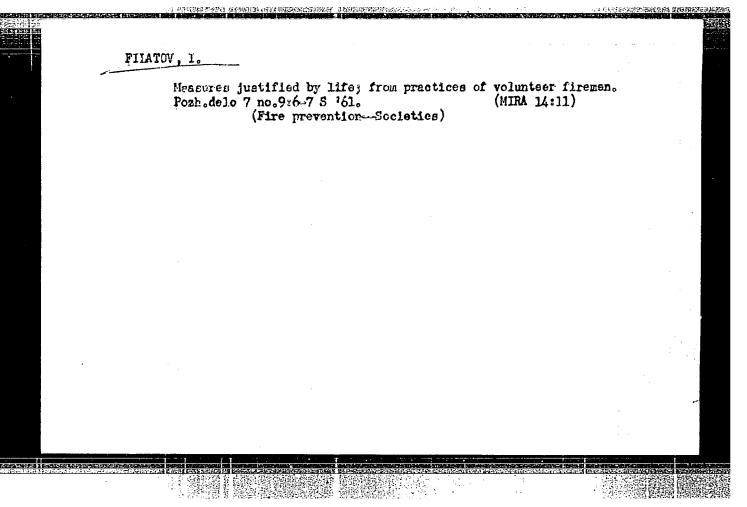
"Handbook for Nonferrous Metallurgist," The Metallurgizdat (Metallurgical Publication House) published this year (1953) the 2nd edition of the 1st volume of "Spravochnik metallurga po tsvetnym metallam" (Handbook for Nonferrous Metallurgist) editored by Prof. Dr. N. N. Muratov, Stalin Prize Winner.

A book written for engineers, technicians, students, foremen and qualified workers it contains a substantial amount of general and practical data, although it is far from being exact. Some of the most flagrant discrepancies occur in the boiling points of pure metals, in data about physicochemical constants and density data.

Original source: Vechernyaya Moskva, No. 172, 23 Jul 53, p. 2 50; TI 152298







FILATOV, I.F.; TOKAREVICH, K.N.; VISHNYAKOVA, L.A.; FRIDMAN, E.A.

Role of viral and rickettsial agents in the etiology of acute types of pneumonia. Trudy Len. inst. epid. i mikrobiol. 25:201-209 '63. (MIRA 17:1)

1. Iz otdela osobo opasnykh infektsiy i laboratorii grippa Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera.

AKHANCHINOK, A.G.; FILATCV I.G., redaktor; IOFFE, M.L., redaktor; FETROVSKAYA, Y., tekhnicheskiy redaktor

PROMESASTERNIONE TO THE TREATMENT TO THE TREATMENT OF TH

[Principles of the methodology of teaching tactical fire prevention]
Osnovy metodiki pozharno-takticheskoi podgotovki. Moskva, Izd-vo
Ministerstva kommunal'nogo khoziaistva RSFSR, 1954. 99 p. (MLRA 7:9)
(Fire prevention—Study and teaching)

GARPINCHENKO, A.M.; GOLUREV, S.G.; DANILOV, M.V.; KAL'M, A.A.; KALYAYEV, S.V.; MIKHAYLOV, V.I.; GOLUBEV, S.G., redaktor; FILATOV, I.G.

S.V.; MIKHAYLOV, V.I.; GOLUBEV, S.G., redaktor; FILATOV, I.G., redaktor; VINOKUROVA, Ye.B., redaktor; KONYASHINA, A., texnin cheskly redaktor

[Fire extinction tactics] Pozharnaia taktika. Pod red. S.G.Golubeva. Moskva, Izd-vo Ministerstva kommunal nogo kboziaistva RSFSR, 1955.

379 p. (MIRA 8:6)

(Fire extinction)

6 no.9:2 S 60. (MIRA 13:9) 1. Otvetstvennyy sekretar' redaktsii zhurnala "Pozharnoye delo." (Fire preventionPeriodicals)	
	. *

BEBENIN, M.Ye., inzh.; RESHRIMYAK, Yu.V., inzh.; TARAS'YEV, V.I., inzh.;

FILATOV, I.A., inzh.; BRAGIN, K.F., inzh.

Supporting workings in deep mines. Ugol'. prom. no.6:24-28 N-D '62.

(Donets Basin-Mine timbering)

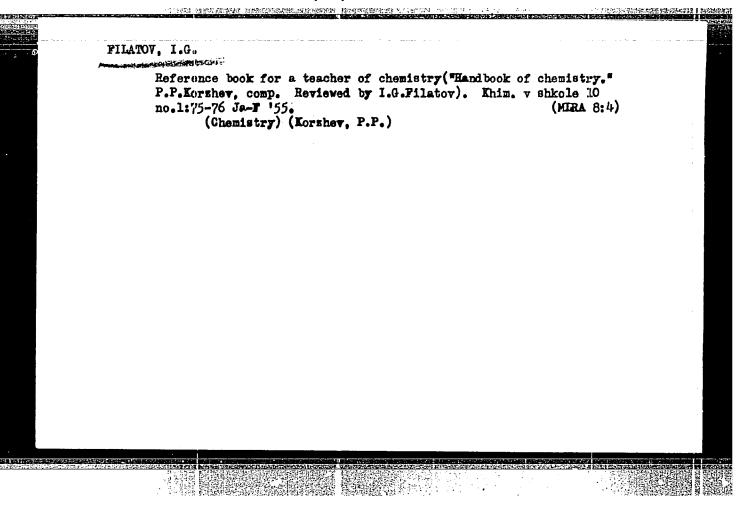
KRASNIK, P.I.; FILATOV, I.F.

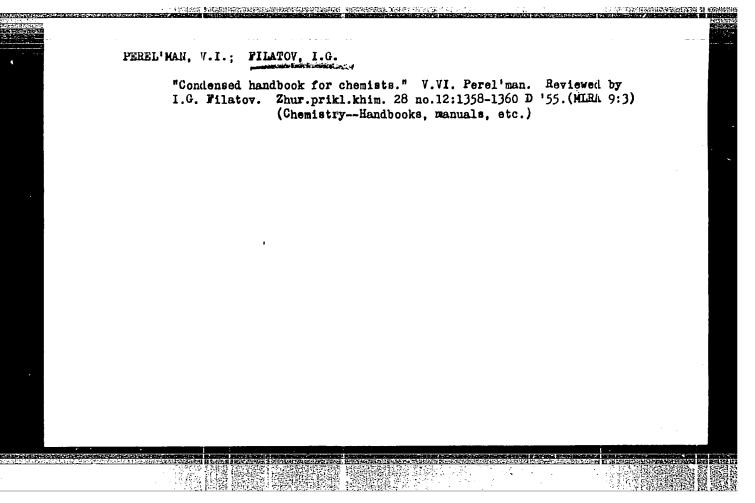
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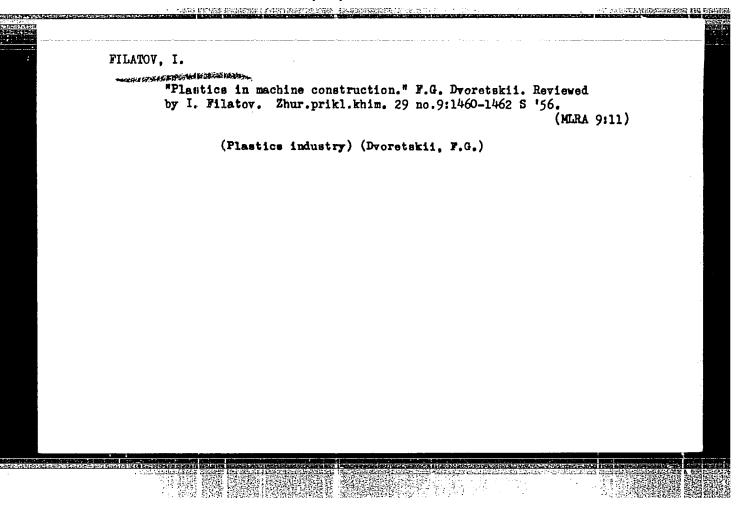
Two cases of five-day fever in the absence of carriers. Trudy Len.inst.epid.i mikrobiol. 23:121-126 '61. (MIRA 16:3)

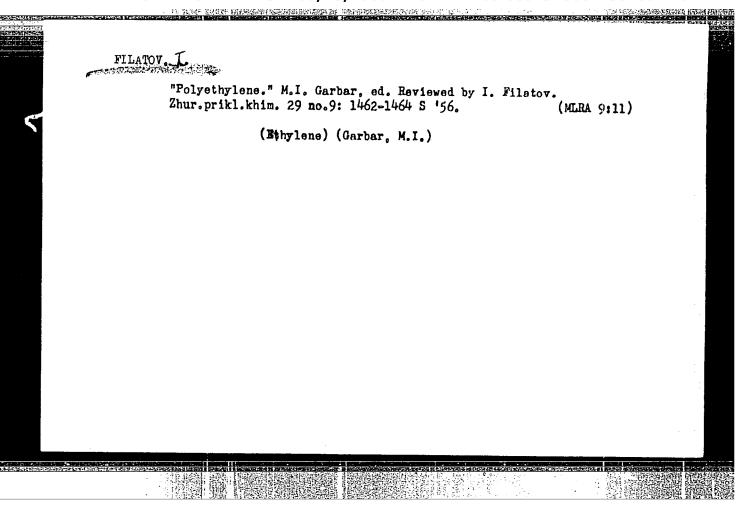
l. Iz laboratorii osobo opasnykh infektsiy i rikkėtsiozov Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera i iz kliniki infektsionnykh bolezney Voyenno-meditsinskoy akademii imeni S.M. Kirova.

(TRENCH FEVER)









USSR/ Chemistry - Elooka

EMA761.16.

Gard 1/1 Pub. 147 - 35/35

Authors : Filatov, I. G.

Title : Bibliography. Reference book on physico-chemical values

THE BLOCK OF THE PROPERTY OF T

Periodical : Zhur. fis. khim. 30/1, 237-238, Jan 1956

Abstract

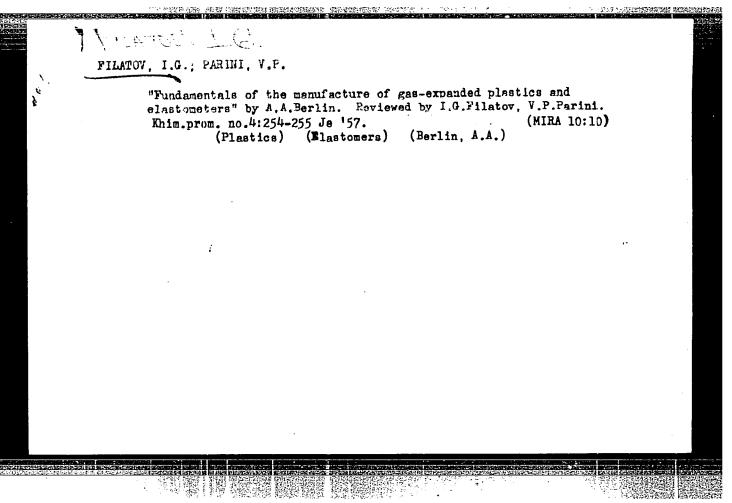
A critical review is given on a new reference book physico-chemical values composed by N. B. Baron; E. I. Kvyat; Ye. A. Podgornaya; A. M. Ponomareva; A. A. Ravdel' and Z. N. Timofeyeva and published by the GOSKHIMIZDAT in Leningrad in 1955. It is stated that the book contains a chart of Mendeleyev's periodical system of elements, list of important constants (mass, electron charge, mass of protons, neutrons and alpha particles, gas constant, Avogardo, Planck, Boltzmann constants, etc.) and

other thermodynamic values.

Institution:

Submitted :

"A scientif: M.I. Kovarsl '57.	ic and popular book on halogens kaia and I.G. Filatov. Khim.v	s" by B. Rozen. Reviewed by shkole 12 no.4:72-73 Jl-Ag (MLRA 10:8)
<i>51</i> •	(Halogens) (Rozen, B.)	·



FILATOV, I.G.

AUTHOR:

Filatov, I.G.

3-12-24/27

TITLE:

The Needed Book on Organic Chemistry (Nuzhnaya kniga po orga-

nicheskoy khimii)

PERIODICAL: Vestnik Vysshey Shkoly, 1957, # 12, pp 85 - 86 (USSR)

ABSTRACT:

The author gives a critical review of a new chemistry handbook, "Organic Chemistry" (Organicheskaya khimiya) by N.I. Putokhin, published by Sel'khozgiz in 1956, for use in agricultural vuzes. This book contains basic information on chemistry of carbon compounds. There is a good historical exposition of the theory on the chemical structure of organic compounds by A.M. Butlerov, developed by V.V. Markovnikov, and of the stereochemical theory. In spite of a few deficiencies, the author

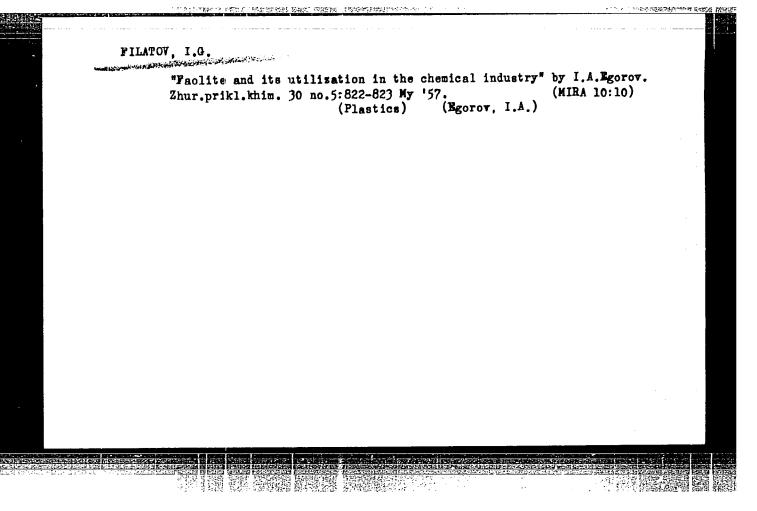
expresses a favorable opinion on the work.

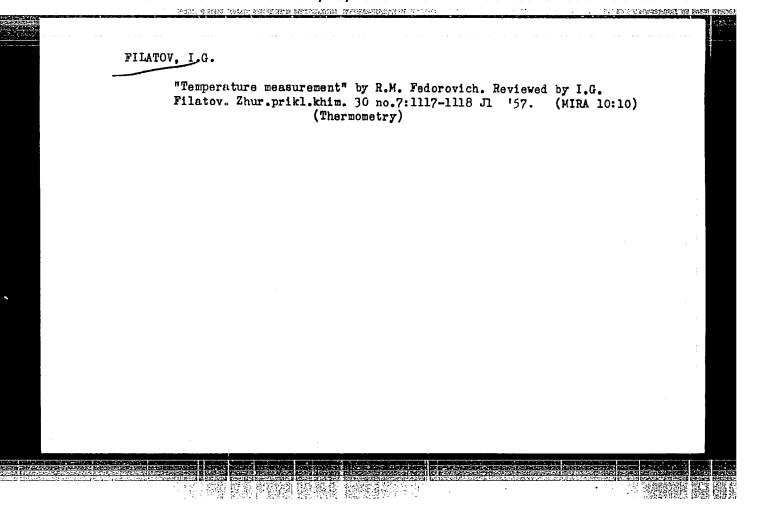
There are 2 Russian references.

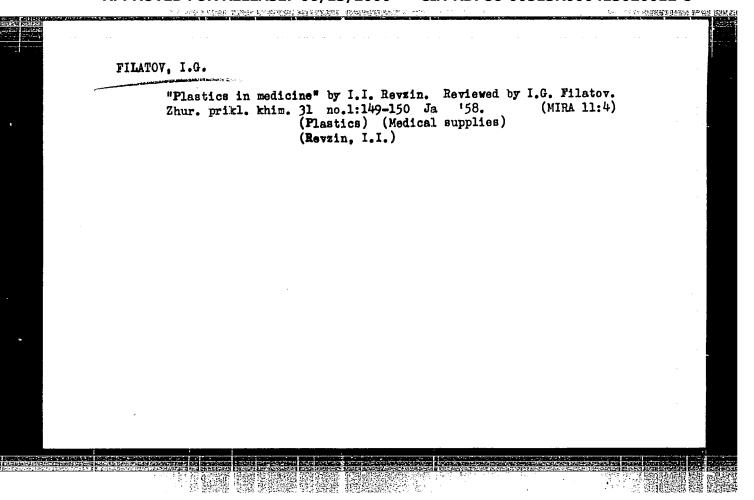
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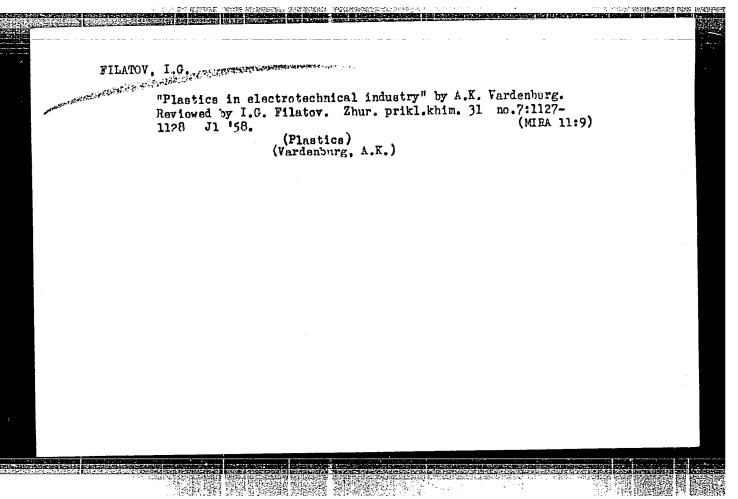
Library of Congress

Card 1/1









10(5)5(2,3)

SIV/80-32-3-42/43

AUTHORS:

Storonkin, A.V., Morachevskiy, A.G., Susprev, la.i., Volkind,

I.Ya., Filatov, I.G.

TITLE:

Bibliography (Bibliografiya)

FERIODICAL:

Thurnel Fikladnoy khimii, 1959, Vol XXXII, Er 3, pp 694-699

(USSR)

APSPRICT:

The article contains the review of 3 books, one of which is a translation from English. The two Soviet books are: "Reference Book for the Equilibrium Between Liquid and Vapor" and

"Flactics and Their Inflammability".

Gord 1/1

75702 SOV/80-32-10-51/51

AUTHOR:

Filatov, I. G.

TITLE:

Bibliography

PERIODICAL:

Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp 2371-

2372 (USSR)

ABSTRACT:

This is a review of the book "Chemistry of Synthetics at a New Stage," by Musabekov, Yu. S. (Sinteticheskaya khimiya na novom etape), published by Yaroslavl publishing house, 1958. Edition of 15,000 copies.

Card 1/1

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77677 **SOV**/80-33-2-52/52

AUTHOR:

Budnikov, P. P., Filatov, I. G., Rotinyan, A. L.

TITLE:

Bibliography

PERIODICAL:

Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 2, pp

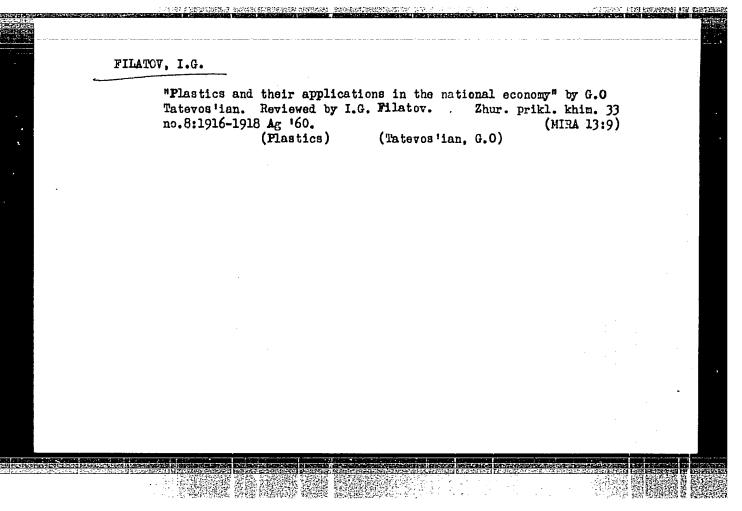
506-512 (USSR)

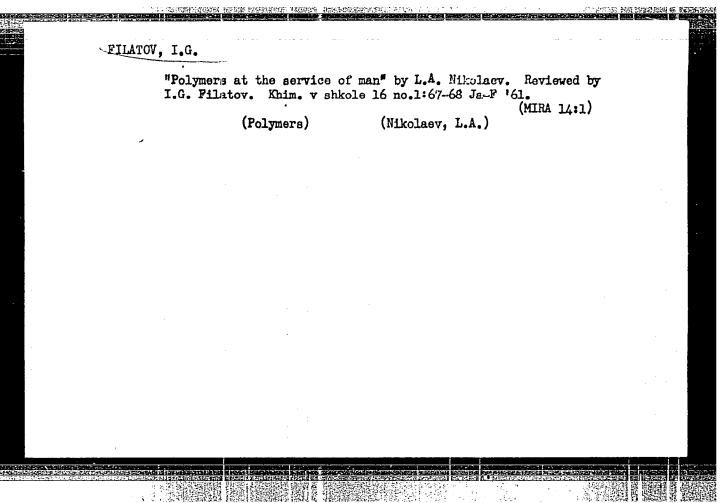
ABSTRACT:

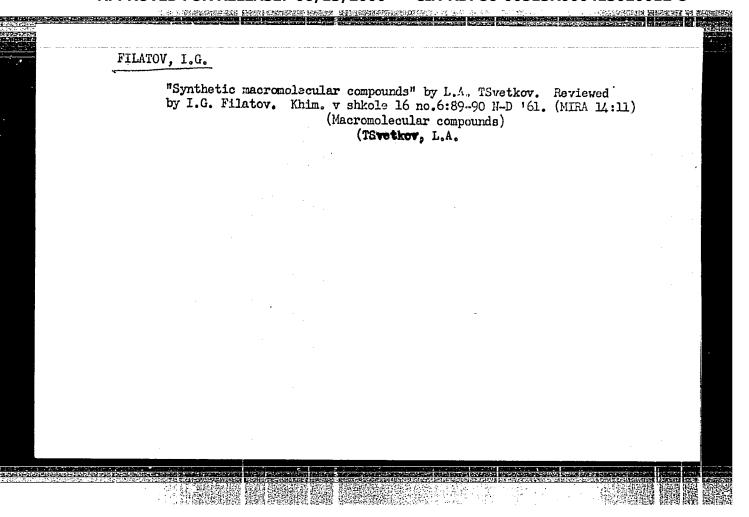
Three new books are listed with an extensive review of

each.

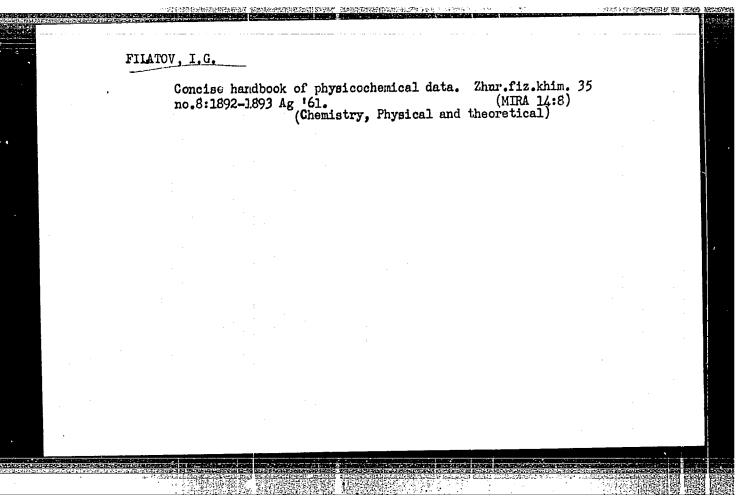
Card 1/1

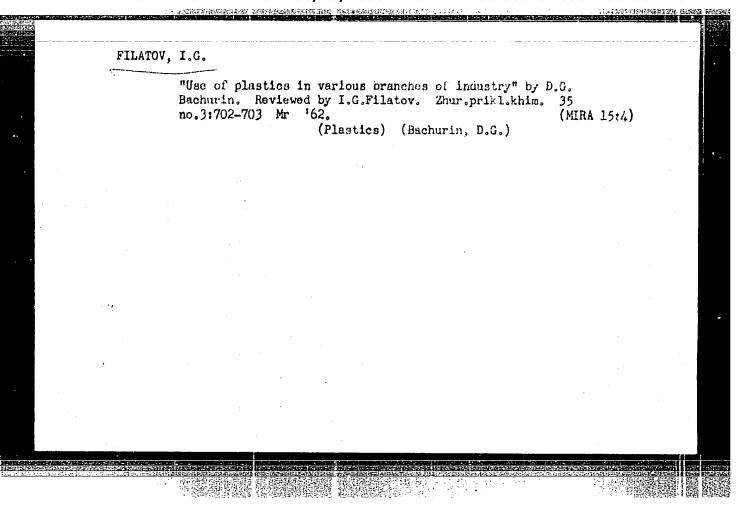


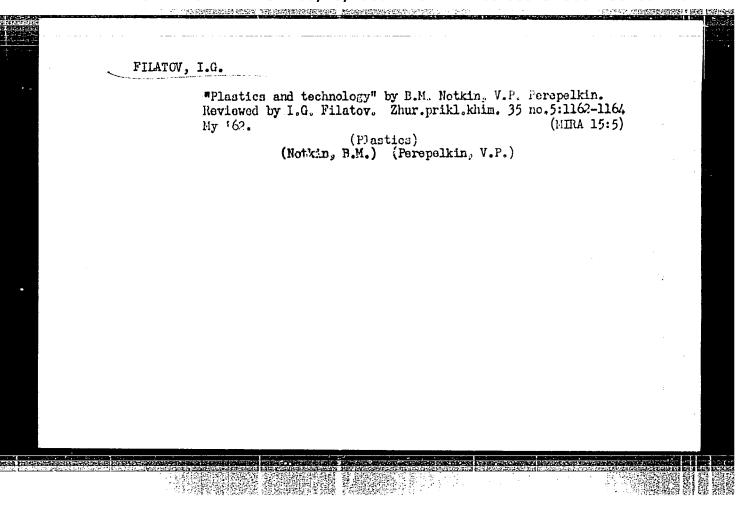


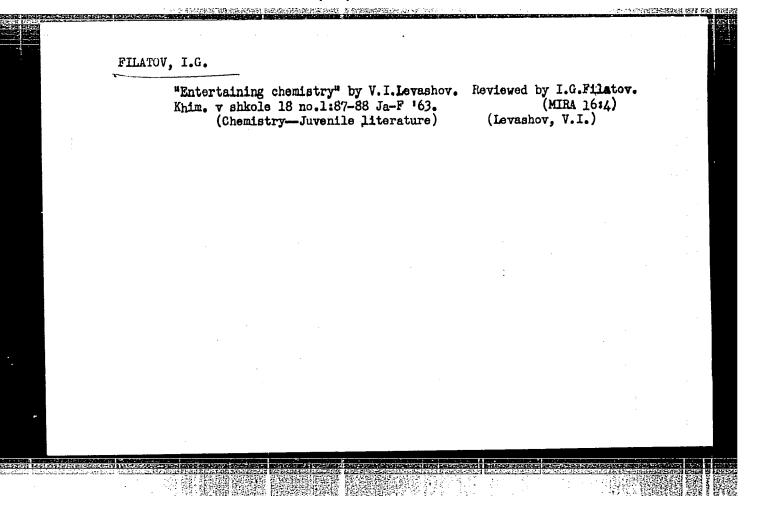


	"Plastics in the nationa Reviewed by I.G.Filatov.	l economy" by L.M.Zabolotz Zhur. prikl. khim. 34 no		
	(Plastics)	(Zabolotnikova, L.M.)	(MIRA 14:2) (Kozel, V.I.)	
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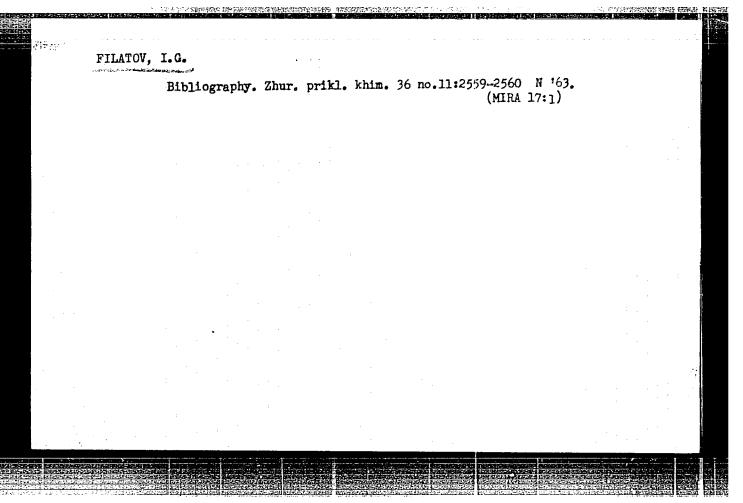


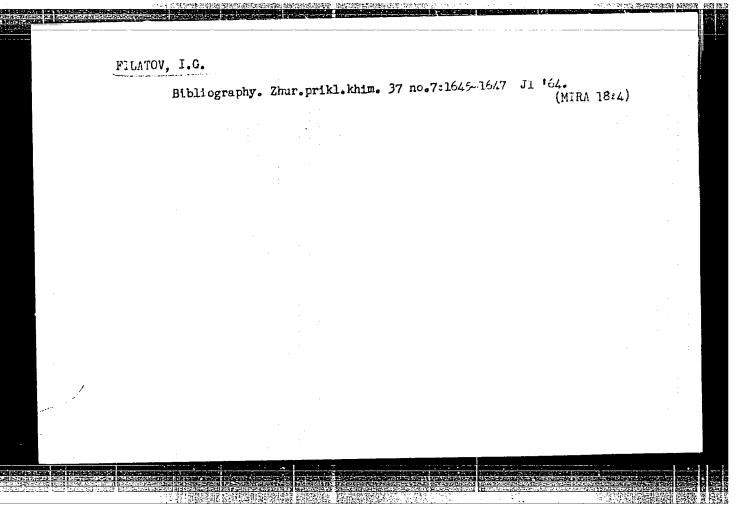
FILATOV, I.G. (Moskva); KRYLOV, D.G.; USHAKOV, M.A.; BRAVERMAN, E.M. (Moskva)

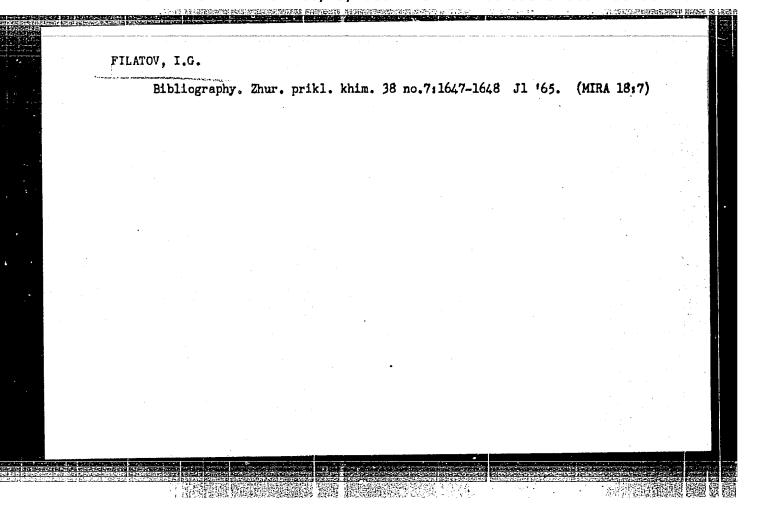
Criticism and bibliography. Fiz. v shkole 23 no.4:95-101
J1-Ag ''63. (MIRA 17:1)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni
V.I. Lenina (for Ushakov).

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413020012-8"







"Concise handbook of chemistry" by I.T. Goronovskii, IU.P. Nazarenko, E.F. Nekriach. Zhur. fiz. khim. 38 no.5x13851387 My '64. (MIRA 18:12)

1. Submitted Aug. 15, 1963.

USSR/Form Animals - Large Horned Cattle.

0-2

Abs Jour

: Ref Zhur - Biol., No 18, 1958, 83344

Author

Filatov, I.I.

Inst

The second secon

Title

Successful Use of Calcinated Straw in Mileh Cow Diets.

Orig Pub

Zhivotnovodstvo, 1958, No 2, 46-49.

Abstract

: When hay was replaced in cow rations by calcinated straw, it did not produce a decrease in their milk productivity, neither did it affect the milk's chemical composition or the blood's indicators to any appreciable degree.

Troitoking Zooveterinary Inst.

Card 1/1

FILATOV, I.I., assistent:

Improving labor conditions in linen spinning mills. Tekst. prom.
19 no.5:98 My '59. (MIRA 12:10)

1. Smolenskiy medinstitut.
(SMILENSE-TEXTILE WORKERS-DISEASES AND HYGIENE)

FILATOV, I. I. Gand Med Sci -- "Data on the functional state of the cardiovascular system of the spinners in hot spinning in connection with their labor conditions." Minsk, 1961 (Min of Health BSSR. Minsk State Med Inst). (KL, 4-61, 211)

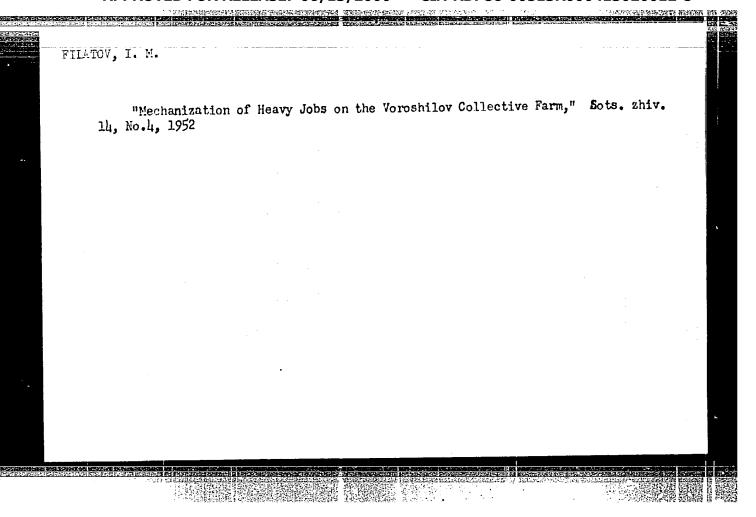
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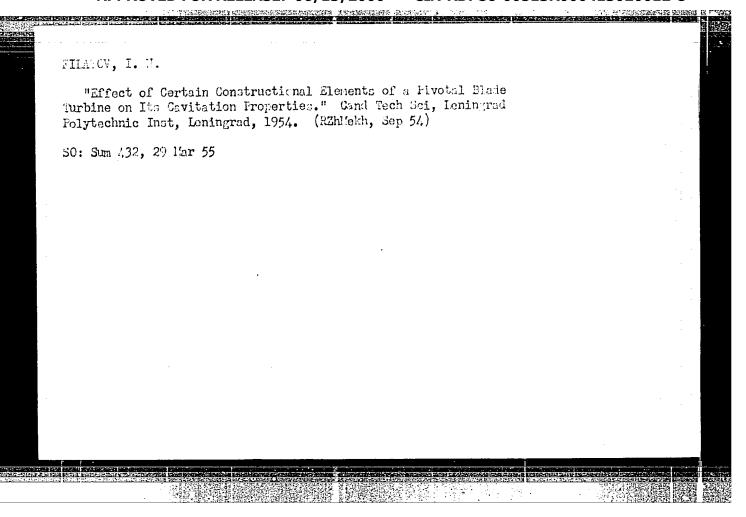
FILATOV, I.K., insh.; STROGANOVA, L.I., inzh.; MOROZOVA, T.V., inzh.

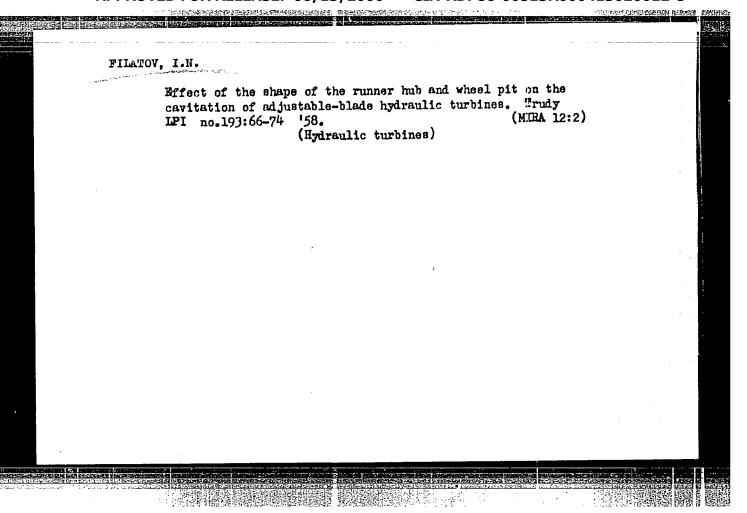
Insulating rail bond with inserts made with polymer materials.

Vest.TSNIIMTS 21 no.7:58-61 162. (MIRA 15:12)

(Electric insulators and insulation) (Plastics)







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Gonsideration of water hammer in hydraulic turbine systems.

Trudy in no.246x25x31 165.

Effect of the number of motors on the rigidity of a hydraulic drive. Ibid.:26x90 (MIRA 18:6)

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000413020012-8"

KAMARLY, A.-P. and FILATOV, I. P.

"Hypodermic galfly in goats."

Veterinariya Vol. 37, No. 3, 1960, p. 65

Filstor — Director, Uch-turgan Vet. Bac. Saboratory

KAMARLI, A.P., kand.veter. nauk; FIIATOV, I.P.

Warble flies of goats. Veterinariia 37 no.3:65 Mr '60.

(MIRA 16:6)

1. Kirgizskiy nauchno-issledovatel'skiy institut zhivotnovdstva i veterinarii (for Kamarli). 2. Direktor Uch-Korgonskoy veterinarno-bakteriologicheskoy laboratorii (for Filatov).

(Warble flies)

FILATOV, I.S., inzh.

Unloading sugar beets without bunkers. Mekh.i avtom.proizv. 14
no.3:44-46 Mr '60. (NIRA 13:6)

(Sugar beets--Transportation)

FILATOV, I. S., (SFTI)

"Investigation of tg and of several ceramic materials in fields of from 180 -4600 V/cm in the frequency range of from 7.65 - 20.5 megacycles and in the temperature range of from 20 - 720 according to the calorimetric method"

Report presented at a Conference on Solid Dielectrics and Semiconductors, Tomsk Polytechnical Inst., 3-8 Feb. 58. (Elektrichestvo, '58, No. 7, 83-86)

FILATOV, I.S.

Determination of heat capacities of ceramics during calorimetric determination of dielectric losses. Izv. vys. ucheb. zav.; fiz. no.3:100-105 '58. (MIRA 11:9)

1. Sibirskiy fisiko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V.V. Kuybysgeva. (Ceramics--Testing) (Dielectrics)

SOV/139-58-4-17/30

AUTHORS:

Vorozhtsov, B. I. and Filatov, I. S.

TITLE:

Non-Steady State Calorimetric Method of Measuring the Dielectric Loss Angle and the Permittivity in Strong High Frequency Fields (Nestatsionarnyy kalorimetricheskiy

metod izmereniya ugla dielektricheskikh poter' i dielektricheskoy pronitsayemosti v sil'nykh polyakh

vysokoy chastoty)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Fizika, 1958, Nr 4, pp 105-113 (USSR)

ABSTRACT: Calculation of the dielectric loss angle is based on comparing the heat generated by the dielectric losses and the heat measured from the temperature rise of the dielectric, taking into consideration the heat losses due to heat exchange between the specimen and the surrounding medium. The mathematical formulation of this relation is expressed by the differential equation (2), p 106, the solution of which can be developed in series, the author limits himself to using the first term thus obtaining the following equation:

term, thus obtaining the following equation:

Cardl/4

 $\Delta T = (A/m\lambda)t$

SOV/139-58-4-17/30

Non-Steady State Calorimetric Method of Measuring the Dielectric Loss Angle and the Permittivity in Strong High Frequency Fields

In the case of non-uniform fields, the relations are more complicated. Of practical interest is the case of a cylindrical condenser and the solution of the non-uniform equation of heat transfer for such a case, quoted from an earlier paper of one of the authors (Ref. 16), is expressed by Eq.(8). The equation on which the calculation of the dielectric losses is based is:

$$tg \delta = \frac{m\lambda\Delta T}{0.24 \omega CV^2_{rms}t}$$

The block schematics of the test set-up is shown in Fig.2; it consists of an H.F. oscillator, an inductively coupled metering circuit, equipment for measuring the temperature of the specimen and its heating by the high frequency current, metering voltage and a crucible electric furnace. The oscillator can be operated at frequencies between 7.65 and 85 Mc/sec. All the connections in the oscillator and in the meter circuit were made of copper tubes and silver-plated; coils intended

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SOV/139-58-4-17/30 Non-Steady State Calorimetric Method of Measuring the Dielectric Loss Angle and the Permittivity in Strong High Frequency Fields

for operation at frequencies above 20.5 Mc/sec are also silvered. The metering circuit consists of an induction coil, a tuning condenser C, a condenser containing the dielectric, C, and a voltage metering circuit. The error of determining the capacitance is 0.5% with a sensitivity of 0.025 pF per scale division. The temperature dependence & was calculated from the change in the capacitance with temperature and the geometrical dimensions of the specimen with an error of 1.5%; it can be seen from the graph, Fig.3, that for quartz the thus obtained results are fully in agreement with those measured on a Q-meter. In a table, p 112, a comparison is given of the dielectric loss factor for several materials measured by the here described method with the values measured by other methods. The here described non-steady state calorimetric method of measuring the dielectric characteristics of solid dielectrics in strong fields enables measuring at temperatures up to 1000°C and even higher and determining the dependence of the dielectric loss factor on the field potential at various

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SOV/139-58-4-17/30

Non-Steady State Calorimetric Method of Measuring the Dielectric Loss Angle and the Permittivity in Strong High Frequency Fields

temperatures and frequencies. The test equipment is simple in design and the test procedure itself does not differ greatly from that applied in current methods of measuring the dielectric characteristics. There are 6 figures, 1 table and 19 references, 11 of which are Soviet, 3 German and 5 English.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V. V. Kuybysheva (Siberian Physico-Technical Institute at the Tomsk State University imeni V. V. Kuybyshev)

SUBMITTED: January 31, 1958

Card 4/4

出。717-7-58-5-15/35

AUTHOR: Filatov, I S.

Dielectric Losses and Permittivity of Certain Ceramic Mater-TITLE: ials in Strong High-Frequency Electric Fields at High Temperatures (Dielektricheskiye poteri i dielektricheskaya pronitsayemost' nekotorykh keramicheskikh materialov v sil'nykh elektricheskikh polyakh vysokov chastoty pri povyshennykh temperaturakh)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, fizika, 1958, Nr 5, pp 73-78 (USSR)

The paper was presented at the Conference of Higher Educational Establishments on Dielectrics and Semiconductors, Tomsk, ABSTRACT: February, 1958. The author reports his investigations of six ceramic materials: B (VK-92), E-1, B-4, M-4, M-6 and 2a. composition of these caramics was as follows: B contained 91.6% of talc, 5.2% of kaolin and 3.2% of boracite; B-1 consists of B with 1% of BaO; B-4 consists of B with 4% of BaO; m-4 consists of B with 4% of MgO; M-6 consists of B with 6% of MgO; 2a consists of K with 2% of BaO, where K consists of 91.6% of talc (including 8% of MgO), 5.2% of kaolin and 3.2% of boracite. Various additions to the ceramic B were meant to improve its properties. The samples were washed with benzene and dried in vacuo for eight hours at 180-200°C.

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SOV/139-58-5-15/35

Dielectric Losses and Permittivity of Certain Geramic Materials in Strong High-Frequency Electric Fields at High Temperatures

The author measured the dielectric losses (tan δ) and permittivity (E) at temperatures from 20 to 750°C, at frequencies from 7,65 to 20.5 Mc/s and in fields from 150 to 4600 V/cm. Measurements were made using a calorimetric apparatus developed at the Electro-Physics Laboratory of the Siberian Physico-Technical Institute by B. I. Vorozhtsov and improved by Filatov (Ref.11). The results of measurements are given in Figs. 1-7. Figs.1-2 give the temperature dependences of tan δ and s of the 2a and B-4 ceramics respectively (also at various fields and frequencies). The temperature dependences of tan & of all the six ceramics are given in Fig. 5. The field dependence of the losses in B-4 is shown in Fig.6. Fig.7 gives the effect of the duration of application of the field on the losses of the ceramics studied. The author makes the following conclusions from the results obtained. 1) The ceramics studied contain air occluded in pores. This air is subject to ionisation which is accompanied by an increase of tan & and s in high fields.

Card 2/3

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Dielectric Losses and Permittivity of Certain Ceramic Materials in Strong High-Frequency Electric Fields at High Temperatures

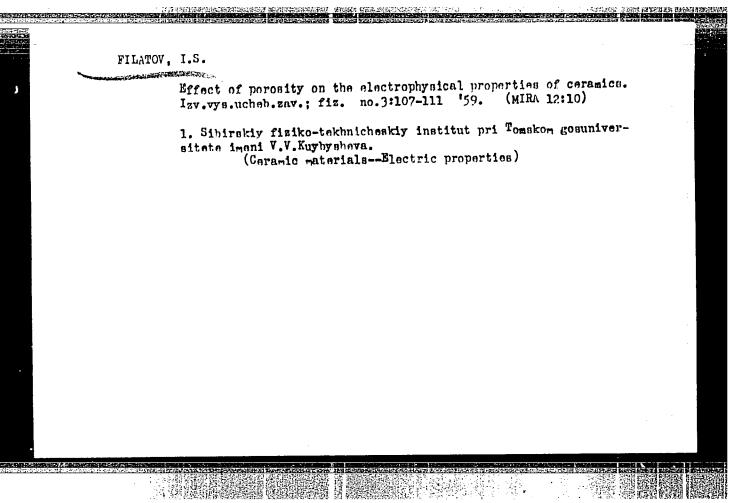
2) The probability of ionisation of the occluded air depends on temperature, frequency, field intensity and duration of application of the field.

3) The losses may be due to relaxation or conduction in the ceramic or due to ionisation of air in pores. When ionisation oxurs the ionisation losses predominate. There are 7 figures and 16 references, 15 of which are Soviet and one is a translation from English into Russian.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosuniversitete imeni V. V. Kuybysheva (Siberian Physico-Technical Institute at Tomsk State University imeni V. V. Kuybyshev)

SUBMITTED: March 10, 1958.

Card 3/3



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82346 s/139/60/000/03/045/045 E032/8314

AUTHOR: TITLE:

Filatov, I.S.

Effect of Radiation on tg & in Ceramics

Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1960, PERIODICAL: No 3, pp 239 - 240 (USSR)

ABSTRACT: The effect of radiation on the properties of ceramics has not so far been exhaustively studied. The present work is concerned with the effect of radiation on tg & in B-1 ceramic. This ceramic consists of 91.6% talcum, 5.2% kaolin and 3.2% boracite. Measurements were carried out by a non-stationary calonmetric method (Ref 6), using an off-balance bridge (Ref 7). The irradiation was carried out on a 15 MeV betatron and a Co specimen. Measurements out on a 15 MeV betatron and a Co before irradiation (Refs 8,9) showed that relaxation ionisation, and conduction losses appear in this ceramic, depending on the temperature, frequency and field. In order to establish the effect of irradiation, tg & was measured as a function of temperature frequency and field strength. It was found that after irradiation by a betatron

(dose rate $4.8 \times 10^4 r/h$, integral dose $2 \times 10^5 r$) tg δ

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5/139/60/000/03/045/045

Effect of Radiation on tg & in Ceramics

Card2/3

remained constant in both weak and strong fields at all temperatures between 200 and 700 °C. When the dose was increased to 2.12 x 10^7 γ (produced by Co^{60}) tg δ remained constant at low temperatures but at high temperatures (above 250 °C) it increased appreciably. The slope of the temperature dependence in the high-temperature region after irradiation remained roughly constant. The relaxation maximum in this case disappeared completely. In order to explain the disappearance of the maximum, measurements were made of tg δ as a function of frequency before and after irradiation. After irradiation at 1.06 x 10 τ , tg δ , in general, decreased by a factor of 2. Irradiation at 2.12 x 10 r led to an almost complete disappearance of the relaxation maximum and to an increase in the conduction losses. This behaviour of tg & after irradiation at large doses cannot be easily explained. It is possible that the barium atoms capture free electrons ejected by the radiation. As a result colour centres are formed (it was, in fact, observed that the ceramic became darker

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82346 S/139/60/000/03/045/045

Effect of Radiation on tg & in Geramics E032/E314

in colour after irradiation). It is suggested that if the number of weakly bound barium ions giving rise to relaxation losses decreases with increasing dose, while the number of colour centres increases, then after irradiation, relaxation losses/decrease while conduction losses should increase. In order to elucidate the effect of irradiation on ionisation losses, measurements were made of tan & as a function of field strength before and after irradiation. The result obtained is shown in Figure 3, in which the points refer to measurements before irradiation and the crosses to measurements after irradiation. Irradiation appears to have no effect on this dependence. It follows that changes in the structure of the ceramic material B-10 due to irradiation by gamma-rays leads to a reduction in relaxation losses and an increase in the conduction losses. There are 3 figures and 9 Soviet references.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom

gosuniversitete imeni V.V. Kuybysheva (Siberian Institute of Physics and Technology at Tomsk State University imeni

V.V. Kuybyshev) October 24, 1959 SUBMITTED:

Card3/3

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Enaltder, I.S., and T.M., Enthis, Photoslectrets and the Electrophitographic Provate [Enalt] of Cristal-Legraphy, Jackery of Sciences (SSS, Moscow)] Gubkin, A.M., and T.F., Cargination On Charge Stability of Inorganic Electrate (Enysis and Indiano P.S. Labeder, AS USS, Moscow)	Delirochenko, D.A., and Y.A. Sherelyr. Use of Courial Resonators For Praturing Polyser Tielestic Losses and Specific Inductive Capacitance in Relation to Temperatus [Institute of Higt Molecular Compounds, Anders of Sciences USSS, Lemingrad]	Indority V.Yh. Problems of the Dynamic Theory of Thermal Phenomera in Solids Charles and the Physics Continuous Indiana, T.A. Kranoperer, In.T. Observe and T.W. Physics. On the Moreant of Dispersion in an Meditic Field [Aminoralizity elektrotechnichenkly institut in T.I. Throws (Lenina) (Leningrad Electrotechnical Institute isoni V.I. Til'yncore (Lenina)	Bragin. SM Dielectric Characteristics (6 and te ⁵) of Impreparated Cable Paper in Maintion to the Properties of the Composities (Paper and 013) [Moskersky energeticleskly institut (Muscow Power Engineering Institute)] Discussion	Mikharler G.P., and A.M. Lobany. Study of C and tgö in Polymers as a Punction of Importative at America's Proquenties [Institut Typokamileria Famyth myschamity M SSSR, Leningrad (Institute of High Molecular Components, Leningrad)]	Parmas, Ia-He, and Kit, Labelette. Dislocated Properties of Esterogeneous Dislocation at Superbigh Propunction Discussion	Arthungellekiy, E.T., Dielectric Parmeters of Double Liquid Systems in the Critical Espine ("Directo Agricultural Institute) [Colory A. Armanum Direction Construct in Some Dielectrics at Antio Range (Toronsen Agricultural Institute)	This is a constant of the Froblem of the Statte Specific Industry Capacitance of Betarogateous Dislocation [formeshally sell-asolby) approximately institut (formesh Agricultural Institute)]	Pilator, I.S. Descité Inductive Constitutes and Disloctric Cosses of One Proceedings of Section 1985 of Cosses of One (Stevensky Institute of Section 1985) Induction 1981 and Technique (Stevensky Institute of Section 1981) and Technique Octomistic Assessed Institute, Posse)	coveracy. The bried All-Main Conference on the Repairs of Discontinuous and Korsine at the Frishesky institut head 18. Laboura (Physics Institute head 18. Laboura (Physics Institute and Research 18. Laboura (Physics Institute and Research 18. Laboura (Physics Institute and Research 18. Laboura (Physics Institute and Physics Institute and Institute head in the conference and summaries beginn one which expect of the discussions which followed. The reports in this collection deal with dislated properties, but polytical compounds, and cremates. Physics expectators of weither crystals, chemical compounds, and cremates institute and institute and electrics are insertigated. The volume contains a list of other payers preserved at the conference dealing with polarization, losses, and treadours of dealertries, which were realished in the journal investigated Sand, series fruithersays, for and 18. Schwarzs. Imperature Dependence Tig. of Certain Ion Pleacutiful	Ed. of Publishing Strum: [Bell Sterokal-Metal), which put it is a controlled to the lands: (Emers) Destro of Rhysics and Fallematics (Deceased), and E.T. Filippres, Candidate of Physics and Fallematics. (Personal) and Edition of reports is intended for advantate investigating the physics of disjections.	Passopinnay hidespetities truit reasopinnay trafferential (Physics of Dielectrins, Irminethers, truit vector vessopinnay trafferential (Physics of Dielectrins) framewines of the 24 All-Union Conference on the Physics of Dielectrins Money, Indeed at 1820, 1920, 332 p. Errata slip inserted. 5,000 copies printed. Sponsorling Agricy: Absolute new CCCR. Fischmekly Institut issui F.S. Lebedwer.	PHER: ROX REPUBLICAN SOV/1579
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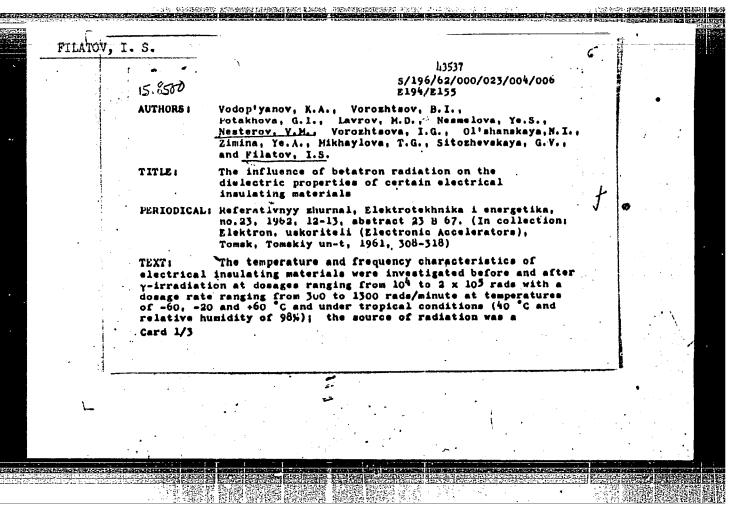
FILATOV, I. S. Cand Phys-Math Sci -- "Dielectric losses in ceramics in strong high-frequency fields under high temperatures." Tomsk, 1961 (Tomsk State Univ im V. V. Kuybyshev). (KL, 4-61, 185)

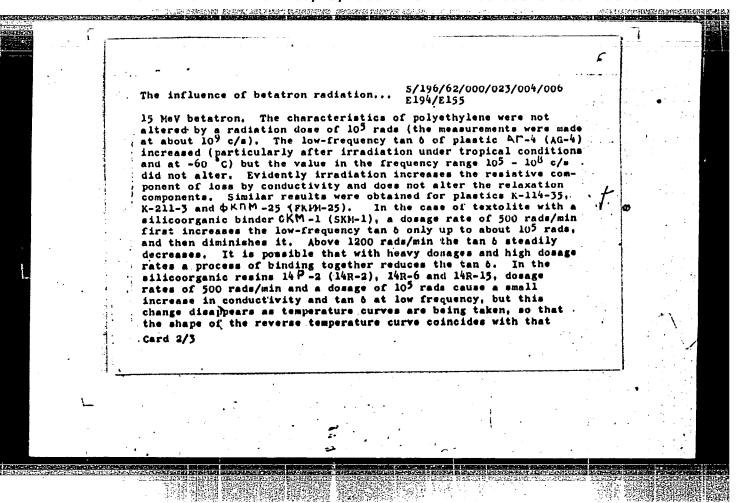
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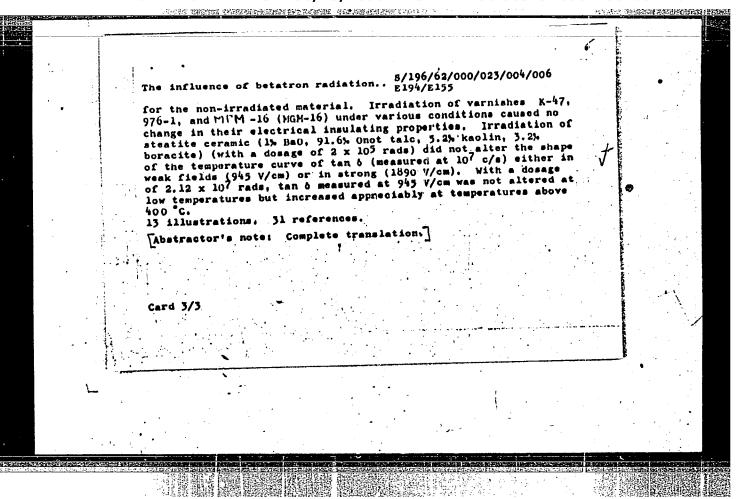
VOROZHTSOV, B.I.; NESTEROV, V.M.; ZAMOTRINSKAYA, Ye.A.; FILATOV, I.S.

Dielectric properties of insulating materials following gamma irradiation. Part 1. Methods for measuring the dielectric characteristics during irradiation. Izv.vys.uch.zav.; fiz. no.4:163-170 '62. (MIRA 15:9)

1. Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom gosudarstvennom universitete imeni V.V. Kuybysheva.
(Dielectrics, Effect of radiation on) (Gamma rays)







\$/139/63/000/001/024/027 E202/E420

AUTHORS: Potakhova, G.I., Vorozhtsov, B.I., Filatov, I.S.

TITLE: Dielectric properties of insulating materials during gamma-irradiation., IV. Epoxy compound 22-6 (ED-6)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika,

no.1, 1963, 155-159

TEXT: The results of studying the dielectric losses and permittivity of ED-6 compound during gamma irradiation are given. Both the effect of the intensity of the dose and cumulative dose of radiation was considered in terms of the dielectric characteristics of the compound in relation to the frequency of the external field. The investigations were carried out at various temperatures, in atmospheric conditions, in vacuo and under tropical humidity. Of particular interest was the study of the effect of quartz filler on the dielectric properties of the above compound under the conditions of irradiation. Similar methods to those described previously (Izv. vuzov SSSR, Fizika, no.6, 1962, 143) were used. In spite of the presence of the polar epoxy groups the dependence of tan 6 for pure ED-6 on the frequency is very weak and disappears with Card 1/3

S/139/63/000/001/024/027 E202/E420

Dielectric properties ...

increasing temperature. Irradiation has little effect on the above relation and on the magnitude of tan δ . These differences were calculated when irradiating with an intensity of 670 r/min. The electric breakdown of pure ED-6 showed that when the irradiating dose is of the order of 2400 r/min there is no change ED-6 with quartz filler when exposed to in the breakdown values. gamma irradiation showed a change in tan 6 which was most effective at low frequencies and decreased with increasing Experiments carried out in vacuo frequencies and temperatures. showed that the latter phenomena are due to the intrinsic changes within the sample itself and not a result of secondary phenomena. It was found that the discrepancies in tan 6 between theoretical and experimental values increase with frequency; the calculated values after irradiation were of the order 2.8×10^{-6} while the It was concluded that the experimental values were 1.6 \times 10⁻². effect of gamma irradiation for dose levels up to 650 r/min in the region of low frequencies leads to the increase of tan b in quartz This effect decreases with increasing frequency of filled ED-6. The value of the electric field and temperature of the sample. card 2/3

Dielectric properties ...

S/139/63/000/001/024/027 E202/E420

tan b in the quartz filled compound at a fixed frequency was determined by the intensity of the irradiating dose. It was also found that the specific volume resistivity of ED-6 decreases with the gamma irradiation. Finally, it was shown that in materials with a quartz filler the increase of tan b during irradiation is due to the quartz. There are 5 figures and 2 tables.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskom

gosumiversitete imeni V.V.Kuybysheva (Siberian

Physico-technical Institute at Tomsk State University

imeni V.V.Kuybyshev)

SUBMITTED:

November 30, 1961

Card 3/3

ACCESSION NR: AF4041843 5/0139

s/0139/64/000/003/0007/0011

AUTHORS: Vorozhtsov, B. I.; Filatov, I. S.

TITIE: Effect of gamma radiation on the dielectric properties of a vacuum dense ceramic

SOURCE: IVUZ. Fizika, no. 3, 1964, 7-11

TOPIC TAGS: ceramic dielectric, ceramic technology, gamma radiation, dielectric constant, dielectric loss

ABSTRACT: In studying a tale-base ceramic, the authors plotted the dependence of the tangent of the dielectric loss angle and the dielectric constant on the temperature, frequency, and field intensity before, during, and after irradiation with gamma rays from Co⁶⁰ at 20C and at relative humidity 60%. It is concluded that the properties of the ceramic, both following the action of gamma radiation and during the interval of \(\gamma\)-irradiation in a weak field, can be noticeably changed (as a result of destruction of the structure of the material following vitrification with formation of color centers) only when the radiation dose is large (more than 10° r). The relaxation losses decrease with increasing dose

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ACCESSION NR: AF4041843

and the conductivity losses increase somewhat. In strong fields, even a slight radiation dose (2.25 x 10⁴ r) leads to a sharp increase in the dielectric constant and loss angle, owing to the strong dependence of the ionization of the gas in the pores of the material in the hf field on the action of the external ionizer. Orig. art. has: 5 figures.

ASSOCIATION: Sibirskiy fiziko-tekhnicheskiy institut pri Tomskon gosuniversitete imeni V. V. Kuyby*sheva (Siberian Physicotechnical Institute at Tomsk State University)

SUBMITTED: 25Jul62 ENCL: 02 SUB CODE: EC, 8S

NO REF SOV: 013 OMER: 006

