

COUNTRY : USSR
CATEGORY : ~~Farm~~ Animals.
The Honeybee. Q
ABS. JOUR. : RZhBiol., No. 6, 1959, No. 25939
AUTHOR : Alles, P.; Ask, E.
INST. : -
TITLE : Accelerated Growth of Bee Colonies when
Supplementarily Fed with Protein Substances.
ORIG. PUB. : Sots. pollumajandus, 1958, No 4, 185
ABSTRACT : No abstract.

Card: 1/1

AAL'KIND, Yu. S. Prof

"Cyclooctatetrane," Priroda, No.7, 1948

AAIOE, A.

New data on the meteorite craters on Saaremaa in the Estonian
S.S.R. Meteoritika no.16:108-114 '58. (MIRA 11:8)
(Estonia--Meteorites)

AAIOE, A.

Ilusetsa craters in Estonia. Meteoritika no.18:26-31 '60.

(MIRA 13:5)

(Estonia--Meteorites)

AALOE, A., nauchnyy sotr.; MARK, E., nauchnyy sotr.; MANNIL, R.,
nauchnyy sotr.; MUURISEPP, K., nauchnyy sotr.; ORVIKU, K.,
nauchnyy sotr.; KIVILA, H., red.; TOOMSALU, E., tekhn. red.

[Stratigraphic review of the Paleozoic and Quaternary deposits
of Estonia] Ulevaade Eesti aluspohja ja pinnakatte stratigra-
afiaast. Tallinn, Eesti NSV Teaduste Akadeemia Geoloogiie
Instituut, 1960. 61 p. (MIRA 15:1)

1. Geologicheskiy institut Akademii nauk Estonskoy SSR (for
Aaloe, Mark, Mannil, Muurisepp, Orviku).
(Estonia--Geology, Stratigraphic)

AAMISEPP, I.; EICHENBAUM, E.; HALLER, E.; KAARELI, K.; KIIK, H.;
KIVI, V.; KOTKAS, H.; KORJUS, E.; LEIVATEGIJA, L.; LIIV, J.;
LÄNTS, L.; MÄLKSCO, A.; PEDAJA, V.; POLNA, H.; RANDALU, I.;
RUUGE, J.; SEKSEL, H.; TOOMRE, R.; TUPITS, H.; TUUL, S.;
TÕNISSON, H.; TÄÄGER, A.; VIIRAND, M.; VAHENÕMM, K.; ARAK, A.,
red.

[Plant breeding] Taimekasvatust. Tallinn, Eesti Raamat, 1964.
813 p. [In Estonian] (MIRA 18:1)

AAMISEPP, Ya. S.

Aamisepp, Ya. S. - "On the effect of external factors on the change in hereditary characteristics of potatoes," In Symposium: Nauch. sessiya po voprosam biologii 20-21 okt. 1948 g. (Akad. nauk Eston. SSR) Tartu, 1948, p. 66-91 - In Estonian language - Summary published in Russian language

SO: U-5600, 10 July 53, (Letopis 'Zhurnal 'nykh Statey, No. 6, 1949).

L 33/2-66 INT(d)/EWT(m)/EWP(w) EM

ACCESSION no: AP5021305

UR/0023/65/000/003/0393/0401

AUTHORS: Aaro, J. (Aaro, J.)

30
29
B

TITLE: Supercritical behavior for plates under shear

SOURCE: AN EstSSR. Izvestiya. Seriya fiziko-matematicheskikh i tekhnicheskikh nauk, no. 3, 1965, 393-401

TOPIC TAGS: shear stress, plate deflection, ^{sl}approximation method, numerical method, equilibrium condition, Galerkin method

ABSTRACT: A theoretical method is given to describe the supercritical behavior of web-plates under shear. It is assumed that the plate is simply supported along its edges with welded stiffeners and flanges (see Fig. 1 on the Enclosure). In the analysis the rigidity of these flanges and stiffeners is taken into account with the following boundary conditions

$$\begin{aligned}
 1) \quad x=0, a \quad \frac{\partial^2 w}{\partial x^2} = 0 \quad \sigma_x = 0 \quad \epsilon_y'' = \epsilon_y'' \\
 2) \quad y=0, a \quad \frac{\partial^2 w}{\partial y^2} = 0 \quad \frac{\partial^2 v}{\partial x^2} = 0 \quad \epsilon_x'' = \epsilon_x''
 \end{aligned}$$

Card 1/4

L 3392-66

ACCESSION NR: AP5024305

2

The compressive strength of the collar $F_{T1}/at = 1.0$ and the compressive strength of the ribs $F_{T2}/at = 0.5$. The deflection of the plate midsection is assumed to have the form

$$w = \sum_m \sum_n w_{mn} \sin \frac{m\pi x}{a} \sin \frac{n\pi y}{a}$$

$$(m = 1, 2, 3; n = 1, 2, 3)$$

after which the u- and v-deflections are obtained from the two equations

$$\frac{\partial^2 u}{\partial x^2} + \frac{1-\mu}{2} \frac{\partial^2 u}{\partial y^2} + \frac{1+\mu}{2} \frac{\partial^2 v}{\partial x \partial y} = - \frac{\partial w}{\partial x} \frac{\partial^2 w}{\partial x^2} - \frac{1-\mu}{2} \frac{\partial w}{\partial x} \frac{\partial^2 w}{\partial y^2} - \frac{1+\mu}{2} \frac{\partial w}{\partial y} \frac{\partial^2 w}{\partial x \partial y}$$

$$\frac{\partial^2 v}{\partial y^2} + \frac{1-\mu}{2} \frac{\partial^2 v}{\partial x^2} + \frac{1+\mu}{2} \frac{\partial^2 u}{\partial x \partial y} = - \frac{\partial w}{\partial y} \frac{\partial^2 w}{\partial y^2} - \frac{1-\mu}{2} \frac{\partial w}{\partial y} \frac{\partial^2 w}{\partial x^2} - \frac{1+\mu}{2} \frac{\partial w}{\partial x} \frac{\partial^2 w}{\partial x \partial y}$$

using the Galerkin method. Numerical results are obtained, and the load carrying capacity of the plate is determined. The results, in figures, show that the slender webs are able to carry transverse loads considerably above the critical load. Orig. art. has: 23 equations, 6 figures, and 2 tables.

ASSOCIATION: Tallinskiy politekhnicheskii institut (Tallin Polytechnical Institute)

Card 2/4

L 3392-66

ACCESSION NR: AP5024305

SUBMITTED: 06Apr65

ENCL: 01

SUB CODE: AS

NO REF SOV: 003

OTHER: 005

Card 3/4

L. 3392-66

ACCESSION NR: AP5024305

ENCLOSURE: 01

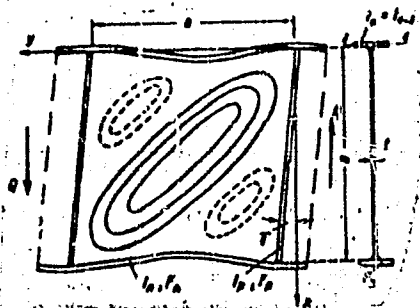


Fig. 1

Card 1/4 *h.d.*

RAMM, I. I.

Dissertation: "Investigation of the Work of a Supporting Panel of a Solid Steel Beam in a Postcritical Stage." Cand Tech Sci, Tallin Polytechnic Inst, Tallin, 1953. (Referativnyy Zhurnal--Mekhanika, Moscow, Apr 54)

SO: SUM 243, 19 Oct 1954

S/137/61/000/012/136/149
A006/A101

AUTHOR: Aarelayd, Kh. V.

TITLE: Investigating the possibility of using a cylindrical indenter to determine ductile properties of metal

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1961, 40, abstract 12I311 ("Tr. Tallinsk. politekhn. in-ta", 1960, A, no. 175, Shch. str. 111.)

TEXT: A method is described which with the aid of a cylindrical indenter makes it possible to determine rapidly two parameters, characteristic of the ductile properties of metals, namely, the reference yield point and the intensity of stress changes when the indenter is intruded. The method is not labor consuming and does not require the manufacture of special specimens; it is only necessary that the surface on which the test is performed be of not lower than class 4 roughness. The test lasts 1 - 2 minutes. The method makes it possible to determine the ductile properties of the material in 3 - 5 mm depth of the external layer. The author presents a schematic diagram of the semi-automatic device employed for the tests by the described method on AMU (AMTs)

Card 1/2

s/137/61/000/012/136/149
A006/A101

Investigating the possibility ...

alloy. An investigation was made of the basic factors affecting the readings of the device (the distance between the imprint edges and the imprint and specimen edges; the loading speed; thickness and diameter of the specimen; final load, roughness of the surface; the effect of grease). On the basis of tests made with steel specimens, the author advances a hypothesis that the tests with a cylindrical indenter can also be applied to steels. There are 7 references.

V. Ferenets

[Abstracter's note: Complete translation]

Card 2/2

S/137/62/000/002/097/143
A060/A101

AUTHOR: Aarelayd, Kh. V.

TITLE: Determination of the ductile characteristics of metals by the method of measuring the penetration of a cylindrical indenter

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 2, 1962, 75, abstract 21506 ("Tr. Tallinsk. politekhn. in-ta", 1961, A, no. 190, 23, ill.)

TEXT: An investigation was carried out upon the influence of hardness and intensity of strengthening of the metal, the diameter of the indenter, the rounding off radius of the indenter edge, and the preliminary ductile deformation of the specimens of various metals, upon the constants C and m (C characterizes the yield point, and m - the tendency of the metal to hardening). Results are cited of investigating the portion subjected to ductile deformation in the zone of pressing-in the indenter. A relationship is determined between the constants C and m obtained by this method of testing, and the parameters of some other current methods. It was established that the parameters of plastic compression σ_0 and n are linearly related to the constants C and m: $\sigma_0 = 0.42 C$, and $n = 2.1 m - 0.3$. This makes it possible to test the ductile characteristics of

Card 1/2

Determination of the ductile ...

S/137/62/000/002/097/144
A060/A101

metals by the method of penetration of a cylindrical indenter, which is several times easier and cheaper than the method of plastic compression, and allows the determination of the cutting stress for steel with a precision sufficient for practical purposes. There are 5 references.

Ye. Assanova

[Abstracter's note: Complete translation]



Card 2/2

10.6100

S/854/61/000/102/003/004
B187/B104

AUTHORS: Aarend, E., Lepik, Yu., and Lukht, L.

TITLE: Large deflections of a flexible, elastoplastic circular disk freely supported at the edge

SOURCE: Tartu. Universitet. Uchenyye zapiski. no. 102. 1961. Trudy po matematike i mekhanike. no. 2. 377-384

TEXT: A study is made of the strong deflection in the direction of the symmetry axis of an incompressible elastoplastic circular disk of radius a and thickness h with linear strengthening in the postcritical range. The edge of the plate is hinged and freely movable in the plane of the plate. The problem is solved with the aid of Lagrange's variational equation

$$\int_0^a \left[\left(1 - \frac{1}{2} Q_1\right) \delta P_z - \frac{h}{2} Q_2 \delta P_{\epsilon_1} + \frac{h^2}{12} \left(1 - \frac{3}{2} Q_3\right) \delta P_{\kappa} - \frac{3a}{2Eh} \delta w \right] r dr = 0$$

with the following boundary conditions: for $r = 0$: $\epsilon_1 = \epsilon_2$, $\kappa_1 = \kappa_2$, $u = 0$, $dw/dr = 0$; the quotients u/r and $\frac{1}{2} dw/dr$ are bounded; for $r = a$:
Card 1/5

Large deflections of a flexible, ...

S/854/61/000/102/003/004
B187/B104

$w = 0, T_0 = M_0 = 0$. The solution is sought in the form

$$U^* = (C_1 + C_2 \xi^2 + C_3 \xi^4); \quad w^* = w_0 \left(1 - \frac{44}{11} \xi^2 + \frac{3}{11} \xi^4\right)$$

with the four coefficients w_0^* , C_1 , C_2 , C_3 , interdependent because of the boundary conditions: /c

$$C_3 = -\frac{1}{11} (3C_1 + 7C_2 + \left(\frac{16}{11}\right)^2 w_0^*).$$

Hence, three parameters are varied. The asterisk denotes the transformation into dimensionless quantities:

$$u^* = au/h^2, \quad w^* = w/h, \quad \xi = r/a, \quad q^* = a^4 q/Eh^4.$$

Yu. K. Lepik's method (O ravnovesii gibkikh plastnok za predelom uprugosti - Equilibrium of elastic disks beyond the elastic limit, Prikl. matem. i mekhanika, 1957, 21, 835-842) was used to solve the problem. The designations are also taken from this paper. The numerical computations were made for an ideal plastic material ($\nu = 1$) at the Vychislitel'nyy tsentr Tartuskogo gos. universiteta (Computer Center of Tartu University) with the "Ural" electronic computer. The programming was

Card 2/5

Large deflections of a flexible, ...

S/854/61/000/102/003/004
B187/B104

made by A. Laumets. Values calculated for comparison ($\mu = 2$; $\lambda = 1$) show that the mechanical properties of the disk depend on the strengthening to only a small degree. The following initial values of the parameter $\mu = a^2 l_s / h^2$ characterizing the flexibility were taken into account: $\mu = 0.2$; 2 ; 5 . The corresponding numerical values for

$$w_0^*, C_1, C_2, Q = \frac{3}{2} \int_0^1 q^*(\rho) \frac{w^*}{w_0^*} \rho d\rho, \quad T_0^* = \frac{a^2}{Eh^4} T_1(0), \quad M_0^* = \frac{9a^2}{Eh^4} M_1(0)$$

and the characterization of the deformation intensity e_i by $n = \frac{(li)_{\max}}{l_s}$

at the point of maximum load are listed in a table. The regions of plastic deformation for $\mu = 2$ in the disk cross section are shown in a schematical drawing (Fig. 1). The values found experimentally and those published by N. I. Rasskazov (K vobrosu o rabote krugloy plastniki za predelom uprugosti - Operation of a circular disk beyond the elastic limit, Tr. Mosk. in-va khim. mashinostroyeniya, 1957, 14, 55-79) and R. Haythornthwaite, E. Onat (The load-carrying capacity of initially flat

Card 3/5

Large deflections of a flexible, ...

S/854/61/000/102/003/004
B187/B104

circular steel plates under reserved loading, J. Aeronaut. Sci., 1955, 22, 867-869; The load-carrying capacity of circular plates at large deflection, J. Appl. Mech., 1956, 23, 49-67) are compared with the calculated values.

	w_0^*	Q	Q _{exp}	(Q-Q _{exp})/Q _{exp}
Rasskazov	0.5	0.124	0.109	13.8%
plate no. 8.	1	0.144	0.132	9.1%
$\lambda = 1, \mu = 0.212$	1.5	0.179	0.174	2.9%
$q_1^* = 1$				
Rasskazov	0.5	0.347	0.28	23.9%
plate no. 3.	1	0.712	0.59	20.7%
$\lambda = 1, \mu = 1.46$	1.5	1.020	1.10	- 7.3%
$q_1^* = 1$	2	1.318	1.43	- 7.8%
Haythornthwaite & Onat	0.5	0.240	0.17	41.2%
$\lambda = 1, \mu = 0.46$	1	0.303	0.26	16.5%
$q_1^* = 0.1$	1.4	0.355	0.34	4.4%
	1.77	0.413	0.41	0.7%

lc

Card 4/5

Large deflections of a flexible, ...

S/854/61/000/102/003/004
B187/B104

The deviations of the loading parameter Q decreasing with increasing w_0^* are explained by the presupposition of incompressibility. There are 1 figure and 2 tables.

ASSOCIATION: Kafedra teoreticheskoy mekhaniki (Department of Theoretical Mechanics)

SUBMITTED: March 30, 1960

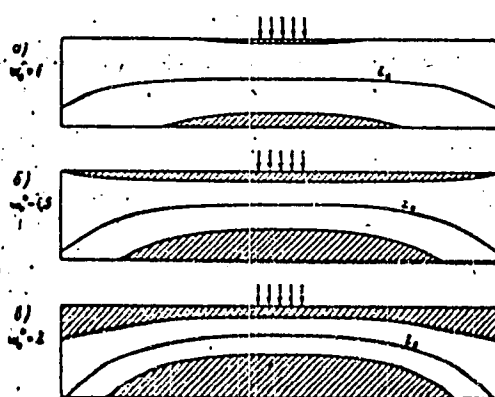


Fig. 1

Card 5/5

AARNA, A.

Developing the chemical industries - a task for the whole nation. Izv. AN Est. SSR. Ser. fiz.-mat. i tekh. nauk 13 no.1:
3-9 '64 (MIRA 18:1)

1. Eesti NSV Teaduste Akadeemia korrespondentliige.

AARNA, A.; MELDER, L. [Mõlder, L.], kand. tekh. nauk

Interaction between certain phenols and ketones. Izv. AN Est.
SSR. Ser. fiz.-mat. i tekh. nauk 13 no.1:10-14 '64
(MIRA 18:1)

1. Polytechnical Institute of Tallin, 2. Corresponding Member
of the Academy of Sciences of the Estonian S.S.R. (for Aarna).

AARNA, A.; MELDER, L. [Molder, L.]

Separation of phenols by means of monoethanolamine. Izv. AN
Est. SSR, Ser. fiz. mat. i tekhn. nauk 11 no. 4: 243-252 '62.
(MIRA 16:1)

1. Tallinskiy politekhnicheskiy institut. 2. Chlen-korrespondent
AN Estonskoy SSR (for Aarna).

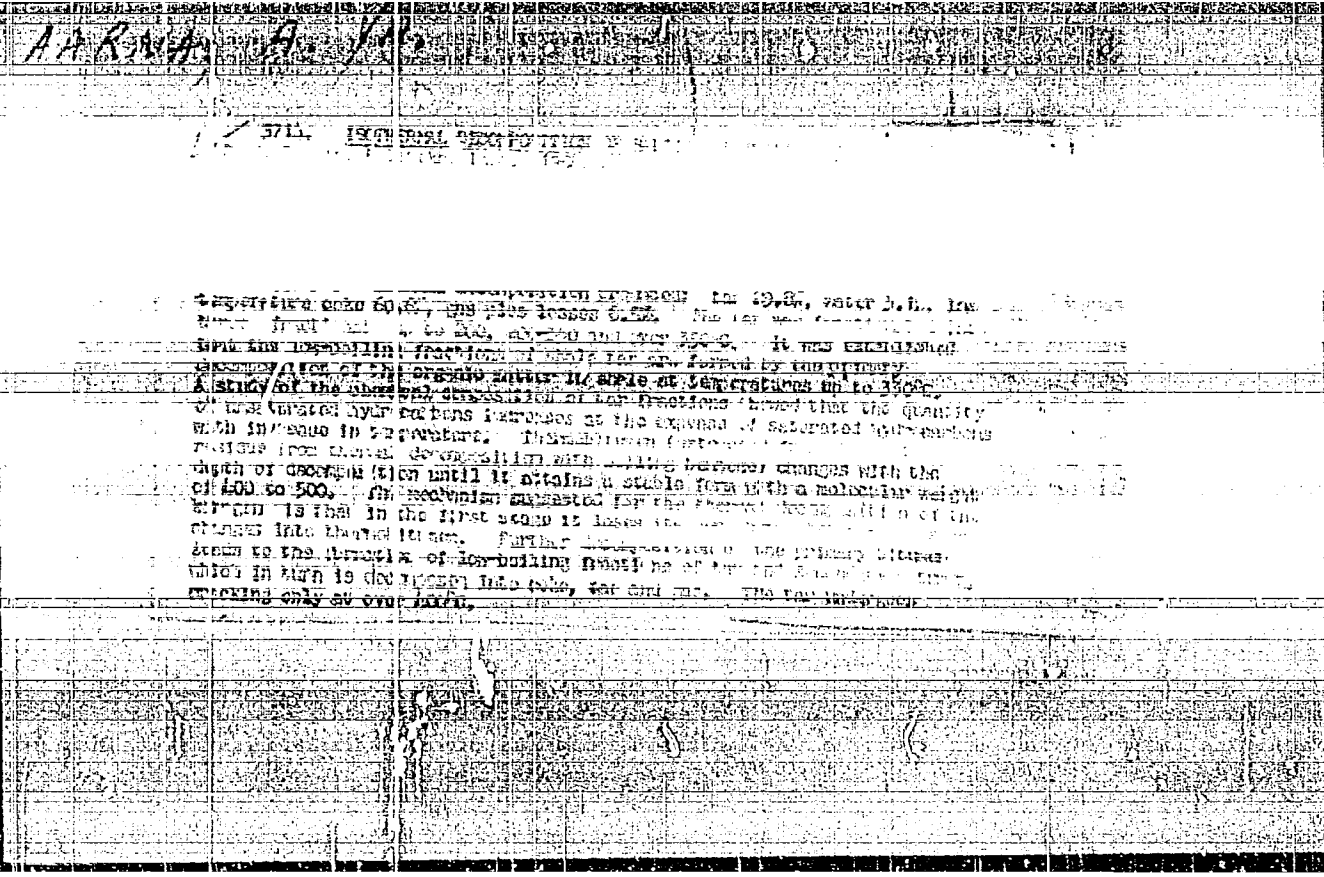
(Ethanol) (Phenols)

AARHA, A. YA.

U.S.S.R.

Reterritation by chromatographic analysis of the chemical group distribution in the middle fractions of shale tar. A. Ya. Aarna and K. A. Kasik. *Trudy Tallin. Inst. Khim. No. 87*, 1-16; *Russk. Zhur., Khim.* 1951, No. 40038. — The method is applicable to the analysis of the fraction b. 200-320° obtained from shale tar in a tunnel furnace and rotating retort. The method requires no solvent, and uses 65 parts by wt. of SiO₂ gel "SASM" (75-250 mesh) per part of liquid to be analyzed. The sample is previously dried at 115-20° for 4 hrs, and is passed through the column under 2.5-4 atm. pressure. BuOH is used as displacing liquid. The ratio of paraffin and naphthene hydrocarbons is detd. from the index of refraction which varies with the b.p. for paraffins according to $n_D^{20} - 1/d_4^{20} = 1.0133 + 0.00013 t$, and for naphthenes $n_D^{20} - 1/d_4^{20} = 1.0329 + 0.000415 t$, for the temp. range 60-300°. The ratio of naphthene to unsatd. hydrocarbons is detd. from the Br no. and mol. wt. Complete sepn. is obtained for solid and unsatd. hydrocarbons and for unsaturates and aromatic hydrocarbons. Sepn. of aromatic hydrocarbons from copds. contg. O and S was not complete. The results of these detns. show that the middle fractions of shale tar do not differ in their chem.-group compn. M. H. H.

AH
Jan



1958. CONSTITUTION OF KEROLIN FROM BAITIC OIL SHALE, A. Ya. and
 L. Ya. (Izv. Tallin. Politekh. in-st., 1958, A, (6), 3453, 3453. In
 Ref. Zh. Khim. (Ref. J. Chem., Moscow), 1958, (18), 1907). The elemental
 composition of the kerogen was examined. A method was worked out for
 determining the oxygen-containing groups in it and determinations were made of
 carboxyl (0.003 equivalent/100 g.), hydroxyl (0.25), carbonyl (0.10) and
 phenolic oxygen ester groups (0.01) per 100 g. of kerogen. The
 nitrogen with five times the quantity of aluminum chloride at 165°C, a 81.6 to
 82.1% yield was obtained. Kerogen from the shale of the Baltic coast of the
 USSR is characterized by a high content of oxygen-containing groups, which
 testify to the presence of aromatic nuclei in its structure. The amount of carbon
 in the aromatic nuclei in terms of the total carbon in
 the kerogen is 11.6% (11.6% of the total carbon). The presence of
 oxygen-containing groups in kerogen; demonstrating the about 10% of the oxygen in kerogen
 occurs in phenolic esters and hydroxy groups. The carbon content of
 naphthalene ring in kerogen is 3.7%.

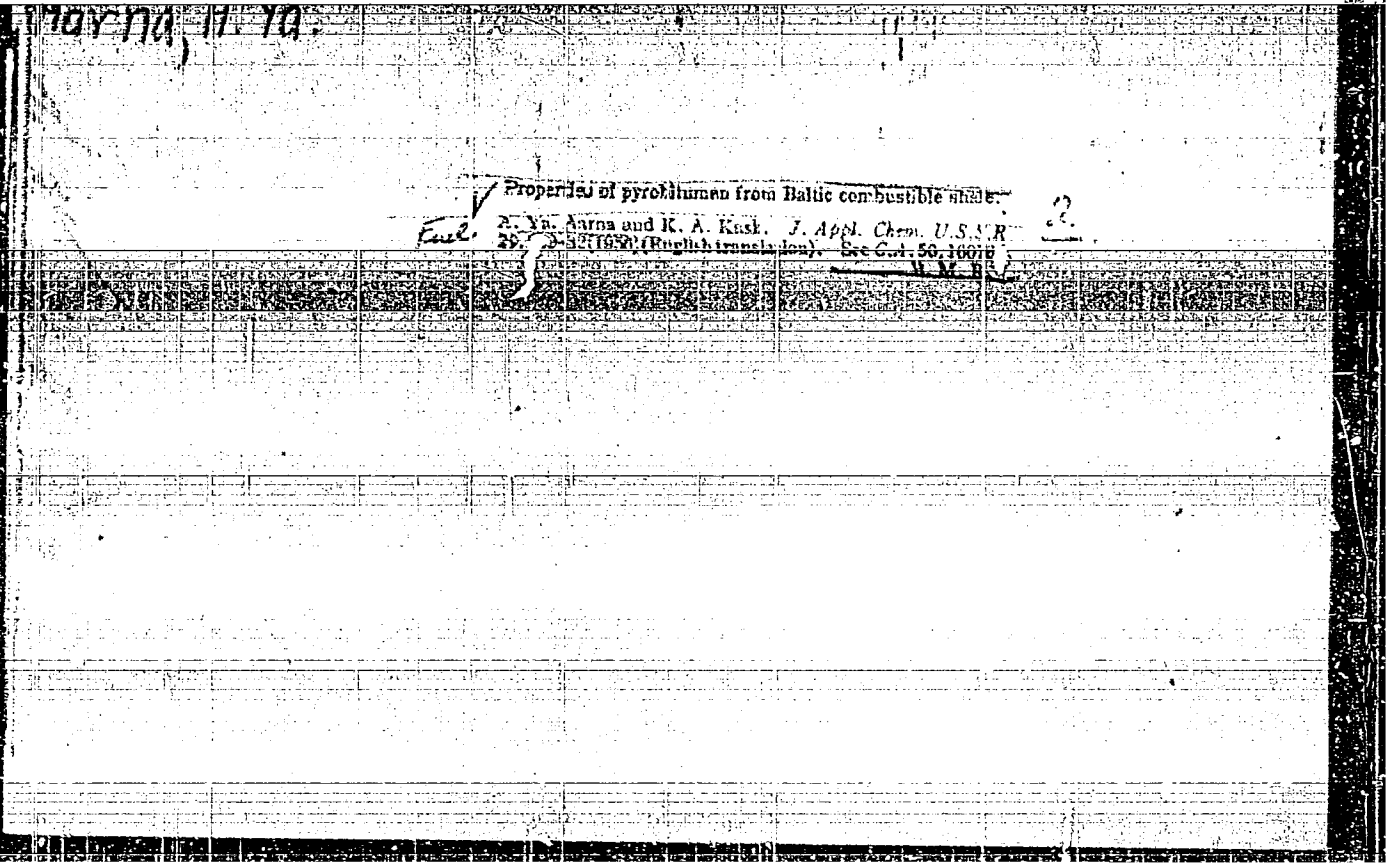
...the system. With the proper conditions with specified boiling points may be obtained without additional distillation. The residue contains no low boiling point portion and is suitable for manufacture of bitumen. It was found that although fly ash deposits are not formed on the plates there is corrosion of the higher plates, where water condenses. To avoid this the upper part of the column is manufactured from stainless steel.

110 RIVA, A. Ya.

✓ Kinetics of the thermal decomposition of Ball. Bifuminon shale. A. Ya. Aorn. (Polytech Inst. Tallin) Com. Pribud. Khim. ~~1955~~ 1956. Bifuminon shale was heated in a steel retort. The distillate was condensed in a rubber bulb.

L

11000



AARNA, A.Ya., [Aarna, A.J.], doktor tehnikeskikh nauk, rezensent; KULL', E.
[Kull, E.], kandidat ekonomicheskikh nauk, rezensent; KYLL', A.T.
[Kyll, A.T.], redaktor; KIVIT', A.A., redaktor; MIKHELLIS, K.A. [Minelis,
K.A.], redaktor; GUBERGRITS, Mark Yakovlevich, redaktor; ROGINA, G.M.,
vedushchiy redaktor; YASHCHURZHINSKAYA, A.B., tehnikeskij redaktor

[Engineering and economic problems of industrial semicoking of
combustible shale; a collection of papers] Voprosy tekhniki i
ekonomiki promyshlennogo polukoksovaniia goriuchikh slantsev;
sbornik statei. Leningrad, Gos.nauchno-tekhn. izd-vo nef. i
gorno-toplivnoi lit-ry, Leningr.otd-nie, 1957. 337 p. (MLBA 10:7)

1. Kiv'oli Polevkiivkeemia Kombinaat.
(Oil shales)

42XIV, A. 7A

✓ Cleavage of ether bonds in kerosen from Estonian shale. A. V. Karna and V. T. Lippmaa (Polytech. Inst. Tallin). Zh. Prikl. Khim. 39, 812-13, 1967; Chem. Abstr. 56, 16688s. The nature and the no. of ether bonds in kerosen were studied on a shale. The results are given.

42
42

... and $AlBr_3$ showed that $AlBr_3$ was the most effective reagent. If was treated with anhyd. $AlBr_3$ at $100^\circ C$, the vapors were collected and analyzed, the residue was filtered, washed with a weak solution of HBr , followed by H_2O , and then dried.

... The results indicate that kerosen of Estonian shale contains ether bonds.

42
42

AUTHORS: Aarna, A. Ya., Silland, Kh, A.

SOV/156-58-1-37/46

TITLE: Investigation of the Continuous Process of Sulfuric Acid
Desulfurization of Shale Gasoline (Issledovaniye nepreryvnogo
protssesa sernokislotoogo obesserivaniya slantsevogo benzina)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya
tekhnologiya, 1958, Nr 1, pp. 153 - 156 (USSR)

ABSTRACT: The authors propose an improvement of the shale gasoline
purification methods hitherto used in the Estonian SSR because
with these about 0,6% sulfur still remain in the gasoline.
Other methods are not profitable. The efficiency of the sul-
furic acid purification is to a great extent based on the
thorough contact between acid and gasoline. To achieve this,
the authors have used the countercurrent principle in the
extraction column having a rotating core. The pilot plant
is shown in figure 1. After catalyzing the gasoline and acid,
separation of gasoline and of the acid gudron was carried out
in the same equipment. After purification, the gasoline was
scrubbed with water and alkali and was finally distilled in
the rectifying apparatus having 5 theoretical plates. In all
experiments a dephenolized gasoline had been taken from the

Card 1/3

Investigation of the Continuous Process of Sulfuric
Acid Desulfurization of Shale Gasoline

SOV/156-58-1-37/46

working process of a shale processing plant in the Estonian SSR. Its characteristic values, taken before the experiment, are given in table 1. The sulfuric acid concentration was 92% as usual. Figures 2-4 show the residual sulfur content as a function of the construction features of the plant: Width of gap between column wall and rotor, linear rotor speed, and duration of contact between gasoline and acid. As is seen from figure 2, the purification output diminishes with increasing gap width. Satisfactory results are obtained with a gap of 2 - 3 mm width. The optimum rotor speed was 3.6 m per sec. With longer contact duration the sulfur content decreases. However, this is accompanied by increasing losses, particularly due to polymerization of unsaturated hydrocarbons. At the same time, productivity of the plant drops, too (Fig 4). The results obtained with this method are shown in figure 5 in their dependence on the amount of sulfuric acid. In table 2 results are given of an analysis of shale gasoline purified by means of the proposed process. Finally, the sulfur compounds of shale gasoline are described. The method proposed shows great advances compared with batchwise purification. There

Card 2/3

Investigation of the Continuous Process of Sulfuric
Acid Desulfurization of Shale Gasoline

SOV. 156 58-1-37/46

are 5 figures and 2 tables.

ASSOCIATION: Kafedra khimicheskoy tekhnologii topliva Tallinskogo poli-
tekhnikeskogo instituta (Chair of the Chemical Technology of
Fuels of the Tallin Polytechnic Institute)

SUBMITTED: October 11, 1957

Card 3/3

AUTHORS: Aarna, A. Ya., Silland, Kh. A. SOV/75-13-4-18/29

TITLE: The Formation of Sulphonium Salts as a Means of the Determination of Organic Sulphides (Obrazovaniye soley sul'foniya kak metod opredeleniya organicheskikh sul'fidov)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol. 13, Nr 4, pp. 473-475 (USSR)

ABSTRACT: There exists a number of methods for the determination of organic sulfides (Refs 1-10). The presence of unsaturated or aromatic compounds, however, renders impossible the quantitative determination of the sulfides according to those methods. The determination of sulfides in mineral oil products and other mixtures of complex composition is, however, of great interest in the control of technological processes as well as for the elaboration of methods for the desulfurization of fats and motor fuels. It is known that organic sulfides can form sulphonium compounds:

$$R-S-R' + R''X \longrightarrow [RR'R''S]^+ X^-$$

Card 1/4

The compounds forming this way are well soluble in water and are typical electrolytes in aqueous solution. Since the dis-

SOV/75-13-4-18/29

The Formation of Sulphonium Salts as a Means of the Determination of Organic Sulphides

covery of the sulphonium compounds (Ref 11) many types of these have been found, the conditions for their formation are, however, insufficiently investigated. From publications may be seen (Refs 12-15) that the formation reaction of sulphonium salts takes place best with methyl iodide in methyl alcoholic solution. On this basis a quantitative method for organic sulfides was elaborated. If a mixture of organic sulfides is heated with an excess of methyl iodide in methyl alcohol in the sealing tube for 2-3 hours at 100° the formation of sulphonium salts takes place quantitatively. The reaction mixture is diluted with water and for the purpose of removing the free iodine and the excess methyl iodide it is extracted with chloroform and then with ether. Then a certain measured quantity of silver nitrate is added and heated to boiling. After the dilution with water a little concentrated nitric acid is added and boiled to the complete coagulation of silver iodide. The AgNO_3 excess is titrated back with an ammonium thiocyanate solution. Ferrammonium sulfate serves as indicator. In another part of the solution the hydrogen iodide formed is determined

Card 2/4

SCV/75-13-4-18/23

The Formation of Sulphonium Salts as a Means of the Determination of Organic Sulphides

by means of the titration with liquor, using methyl red. The content of organic sulfide sulfur is calculated according to the formula:

$$\%S = \frac{0.05(a-b) \cdot 32,07 \cdot 5 \cdot 100}{100 \cdot K}$$

where a denotes the consumption of 0,05 n AgNO₃ solution in ml, b the consumption of 0,05 n lye in ml, and K the weighed portion in g. Thiophene, thianthrene, and diphenyl sulfide do not yield sulphonium salts. This method is suited for the determination of organic sulfides in the presence of unsaturated and oxygen containing compounds. Anisole, guaiacol, and tricresol do not influence the results of the determination. In the presence of mercaptans the method does not yield any correct results as complicated reactions occur. Therefore mercaptan must be removed before organic sulfides are determined according to this method. There are 2 tables and 15 references, 1 of which is Soviet.

Card 3/4

SOV/75-13-4-18/29

The Formation of Sulphonium Salts as a Means of the Determination of Organic Sulphides

ASSOCIATION: Tallinskiy politekhnicheskiy institut (Tallin Polytechnic Institute)

SUBMITTED: May 15, 1956

1. Organic sulfides--Determination 2. Sulfonium compounds
--Synthesis 3. Hydrocarbons--Chemical analysis 4. Methyl red
--Applications

Card 4/4

AARNA, A. Yart

О ТЕРМИНЕСКОМ ПАЛТОВЕЖИИ
ТОПКИХ СТАИИИ
И. Р. Аарна

VIII Mendeleev Congress for General and Applied Chemistry in
Section of Chemistry and Chemical Technology of Fuels,
publ. by Acad. Sci. USSR, Moscow 1979

abstracts of reports scheduled to be presented at above mentioned congress,
Moscow, 15 March 1979.

AARNA, A.YA.

11(7) P. 2

PHASE I BOOK EXPLOITATION

SOV/2996

Akademiya nauk SSSR. Institut goryuchikh iskopayemykh

Genezis tverdykh goryuchikh iskopayemykh (Genesis Of Solid Fuels) Moscow, AN SSSR, 1959. 358 p. Errata slip inserted. 2,000 copies printed.

Sponsoring Agency: Vsesoyuznoye khimicheskoye obshchestvo im. D. I. Mendeleyeva. Moskovskoye otdeleniye.

Resp. Eds.: N. M. Karavayev, Corresponding Member, USSR Academy of Sciences, and N. G. Titov, Doctor of Chemical Sciences; Ed. of Publishing House: A. L. Bankvitser; Tech. Ed.: I. F. Kuz'min.

PURPOSE: This collection of articles is intended for geochemists, geologists, and other specialists interested in the genesis of solid mineral fuels.

COVERAGE: The collection of papers on the genesis of solid mineral fuels has been prepared for presentation at the 2nd All-Union Conference on this subject. The formation of humic acids and peat from the decomposition of microorganisms and plants is discussed in connection with studies on the origin of hard coal and brown coal and on the role of certain mineral components in the coal-forming process. The chemical composition of peat and the organic mass of

Card 1/5

Genesis Of Solid Fuels

80V/2996

coal are analyzed and shown in a number of tables. Estonian "Kukkersite" oil shales are analyzed as are the brown coals of the Dnepropetrovsk basin. Metamorphism and carbonization of coal found in different parts of the Urals and the Ukrainian SSR are also discussed. The transformation of parent matter into combustible minerals is analyzed. References accompany individual articles.

TABLE OF CONTENTS:

Dragunov, S. S. Formation of Humic Acids Under Different Natural Conditions	5
Lebedev, K. K. Role of Mineral Components in the Formation of Peat Deposits	16
Lebedev, K. K. Correlation of Lignin and Humic Acids in Peat Accumulated in Depressions	31
Nikonov, M. N. Prerequisites for Coal Formation as Understood From Available Data on Present Peat Deposits	51
<u>Aarna, A. Ya.</u> On the Formation of the Estonian Oil Shale Deposits	57

Card 2/5

Genesis Of Solid Fuels	SOV/297	
Randsepp, Kh. F. Genesis of Histonan Lubbersite Oil Shale		60
Fomina, A. S. On the Question of the Origin of Baltic Kukkersite Oil Shale		77
Karavayev, N. G., and I. A. Volkov. Lignite and Initial Stages of Coal Formation		92
Syabryay, V. K. Origin of Brown Coal Found in the Dnepropetrovsk Basin of the Ukrainian SSR		106
Chernousov, L. M. Irregular Carbonization of Mesozoic Coal Found on the Eastern Flank of the Central and Northern Urals		121
Bogolyubova, L. I. Petrographic and Chemical Characteristics of Some Types of Coal From Volchanskoye and Bogoslovskoye Deposits		137
Kiryukov, V. V. Conditions of Formation of Slightly Carbonized Coal From Southern Ural Brown Coal Basin		143
Card 3/5		

Genesis Of Solid Fuels	80V/2996	
Knyazev, V. A. Metamorphism of Brown Coal From Bogoslovskoye and Veselovskoye Deposits of the Eastern Flank of the Northern Urals		160
Bludorov, A. I. Geologic Conditions of Transformation of Coal Substance in the Southeastern Part of the Russian Platform		166
Grigor'yev, M. Yu. Some Possible Conditions Under Which Coal Strata Could Have Been Formed at the Kuznetsk Basin		180
Zabramnyy, D. T. Evolution of Humic Coal During Metamorphism		189
Shternberg, L. Ye. Changes in Microscopic Characteristics of Clarain Coal of the Donbass During Metamorphism		195
Kalinenko, V. V. Genesis of Bituminous Coal at Tuva		221
Gebler, I. V. Organic Sulfur in Coal		241
Kasatochkin, V. I. Some General Physical and Chemical Questions Concerning the Coal-forming Process		247
Card 4/5		

Genesis Of Solid Fuels

SOV/2996

- Punov, N. I. Characteristics of the Process of Transformation of Parent Matter Into Present Combustible Minerals and the Connection of These Characteristics With the Principal Properties of Combustible Minerals 268
- Annosov, I. I. Genetic Features of the Coal Substance as Ascertained by Petrographic Findings 295
- Zabavin, V. I. Chemical Nature of the Basic Organic Mass of Hard and Brown Coal and Changes During Metamorphism 309
- Kukhareenko, T. A. Changes in the Structure and Properties of Humic Acids During the Coal-forming Process 319
- Titov, N. G. Role of Mineral Elements in the Coal-forming Process 338
- Kaminskiy, V. S., A. L. Rubinahteyn, and A. Z. Yurovskiy. Genesis of Organic Sulfurous Compounds Contained in Coal 344

AVAILABLE: Library of Congress (TN800.A32)

Card 5/5

TM/os
1/26/60

KIVIT, A.A., red.; ANTONS, R.I., red.; AARNA, A.Ya., Prof., doktor
tekhn.nauk, retsenzent; KUEL', B.T., KAND.ekon.nauk, retsenzent;
RAZINA, G.M., vedushchiy red.; YASHCHURZHINSKAYA, A.B., tekhn.red.

[Technology and economic aspects of the industrial semicoking of
oil shales] Voprosy tekhniki i ekonomiki promyshlennogo polukokso-
vaniia goriuchikh slantsev. Leningrad, Gos.nauchno-tekhn.izd-vo
neft. i gorno-toplivnoi lit-ry, Leningr.otd-nie. No.2. 1959.
429 p. (MIRA 12:10)

1. Kiviõli Põlvkiviõieemia Kombinaat.
(Oil shales)

ААРНА, А., доктор техн. наук, проф.

Development of the chemistry of combustible shales. Izobr. 1 rats.
no.8:13 Ag '59. (MIRA 13:1)

(Shale)

AARNA, A.Ya. [Aarna, A.J.]; LIPPMAN, E.T.; PALUOYA, V.T. [Paluoja, V.T.]

Properties of neutral oxygen compounds of shale tar. Khim. i
telch. gor. slan. i prod. ikh perer. no.9:139-146 '60.

(MIRA 15:6)

(Kivioli--Oil shales--Analysis)

AARNA, A.Ye. [Aarna, A.J.]; LILLE, Yu.E. [Lille, J.E.]

Pyrolysis of shale tar. Khim. i tekhn. gor. slan. i prod. ikh
perer. no.9:147-154 '60. (MIRA 15:6)
(Oil shales) (Pyrolysis)

ACCESSION NR: 1P4039949

8/0191/64/000/006/0044/0045

AUTHOR: Aarna, A. Ya.; Kysler, K. R.; Freydn, A. S.; Sholokhova, A. B.

TITLE: Synthetic adhesive based on DFK resins from dihydric phenols from oil shale.

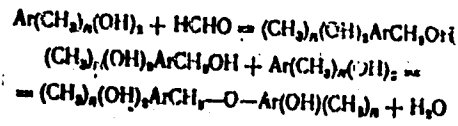
SOURCE: Plasticheskiye massy*, no. 6, 1964, 44-45

TOPIC TAGS: DFK resin, diphenolketone resin, adhesive, cement, synthesis dihydric phenol, alkylated resorcinol, condensation, curing, application, commercial production

ABSTRACT: The technology of a two-stage condensation of alkylated resorcinols to produce adhesive resins was worked out. The bulk of the phenols from tar waters (dihydric phenols whose empirical formula approximates that of dimethylresorcinol), when condensed with formaldehyde in the presence of acetone, form stable high quality DFK (diphenolketone) resins. These resins can be cured at room temperature with formalin or at higher temperatures with urotropine. The mechanism proposed for the condensation of alkylated resorcinols with formaldehyde includes the formation of the ether bond as shown by the equations:

Card 1/2

ACCESSION NR: AP4039949



where Ar is an aromatic ring and n = 1-3. The use of resin DFK-1A for cementing wood, asbestos and different plastics will be shown in subsequent communications. The commercial output of DFK has been arranged at the Slantsekhimicheskoy kombinat Kiviy*li v Estonskoy SSR (Shale Chemical Combine in Estonian SSR). Orig. art. has: 1 table.

ASSOCIATION: None

SUBMITTED: 00

SUB CODE: 0000

ENCL: 00

NO REF SOV: 000

OTHER: 000

Card 22

ACCESSION NR: AP4041787

S/0191/64/000/007/0059/0062

AUTHOR: Gubenko, A. B., Freydn, A. S., Sholokhava, A. B., Aarna, A. Ya.,
Klyser, K. R.

TITLE: Synthetic adhesives based on DFK resins from the divalent phenols of oil shales

SOURCE: Plasticheskiye massy*, no. 7, 1964, 59-62

TOPIC TAGS: synthetic adhesive, resin, DFK resin, phenol, oil shale, bond strength,
adhesion, marshalite, silicon calcite, divalent phenol, adhesive

ABSTRACT: Preliminary experiments showed that among all resins of the DFK type, the most promising for bonding cement materials is the resin DFK-1A. The influence of different fillers on the bond strength of asbestos cement glued with an adhesive based on DFK-1A was therefore investigated in the dry state and after a 24-hour wetting. The best strength characteristics were obtained with ground silicon-calcite, marshalite and hydrophobic sand (the latter produced by the Institut lesokhozyaystvenny*kh problem AN Latv. SSR (Institute of Forestry Problems, An Latv. SSR) from dune sand treated with wood resin).

Card 1/2

ACCESSION NR: AP4041787

Addition of aluminum powder to the adhesive (3-5% of the resin) increased the bond strength by 30-50% with marshalite and by 100% with sand. Aluminum powder considerably increased the adhesion to metals. The relationship between bond strength and exposure time was then investigated for a minimum exposure time of 18 hours under pressure. Adhesion was found to be accelerated by heating (60 - 80C). By heating under pressure, the adhesion time could be reduced to 15-30 min. and a higher bond strength was obtained than with cold pressing (50 and 25 kg/cm², respectively). The dependence of complete hardening on the hardening conditions and fillers in the DFK-1A is shown by tabulated data. The behavior of the adhesive bond under the influence of high temperature and humidity is discussed, and the possible uses of the adhesive are described in detail. Orig. art. has: 2 tables and 2 figures.

ASSOCIATION: None

SUBMITTED: 00

DATE SEL: 30Jul64

ENCL: 00

SUB CODE: MT

NO REF SOV: 007

OTHER: 000

Card 2/2

9.1000,9.5000

77180
SOV/108-15-1-6/13

AUTHOR: Aashbits, L. M.

TITLE: On the Influence of Feeder Parameters on the Noise Coefficient and Sensitivity of a Receiving System

PERIODICAL: Radiotekhnika, 1960, Vol 15, Nr 1, pp 38-47 (USSR)

ABSTRACT: The paper determines the noise coefficient and the sensitivity of a receiving system (antenna, feeder, and receiver) as functions of the feeder parameters. First, the noise coefficient of the feeder is determined. In the equivalent circuit shown in Fig. 1,

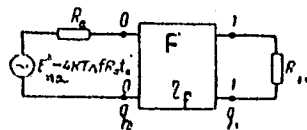


Fig. 1.

Card 1/11

On the Influence of Feeder Parameters on
the Noise Coefficient and Sensitivity of
a Receiving System

77180

SOV/108-15-1-6/13

the feeder is represented by the quadrupole F, at the input of which R_a is the antenna input impedance and E_{na} is the noise emf of the antenna. At the output of F the input impedance of the receiver is shown as R_{ir} . The feeder efficiency is defined as $\eta_f = P_2/P_1$, where P_2 is power at R_{ir} and P_1 is power at the feeder input; and q_0 and q_1 are mismatching coefficients with respect to the input and output, respectively. The mismatching coefficient is defined as the ratio of the power dissipated at the load to the nominal power of the considered generator. The noise emf of the antenna E_{na} is defined by the known expression

$$E_{na}^2 = 4kT \Delta / R_a t_A, \quad (3)$$

Card 2/11

On the Influence of Feeder Parameters on
the Noise Coefficient and Sensitivity of
a Receiving System

77180

SOV/108-15-1-6/13

where k is the Boltzmann constant equal to 1.38×10^{-23} Joule/ $^{\circ}$ K; T is the absolute temperature of the antenna surrounding medium; Δf is the noise band; and t_A is a dimensionless coefficient showing how many times the temperature of a resistor of R_a ohm should be greater than T in order that the noise emf developed by this resistor equal the actual noise emf of the antenna; t_A is called the relative antenna noise temperature. The noise coefficient of the feeder N_{af} is defined as $N_{af} = P_{n \text{ out}} / P_{na \text{ out}}$, where $P_{n \text{ out}}$ is the total noise power at the output load of F and $P_{na \text{ out}}$ is the noise power produced at this load by the antenna noise. To find N_{af} the emf E_{na} is E_{na1} and by E_{na2} connected in series. Since the power of the E_{na} generator should not change, the equation $E_{na}^2 = E_{na1}^2 = E_{na2}^2$ is valid. E_{na1}^2 is

Card 3/11

On the Influence of Feeder Parameters on
the Noise Coefficient and Sensitivity of
a Receiving System

77180
SOV/108-15-1-6/13

selected in such a manner that t_A equals 1:

$$E_{na_1}^2 = 4kT\Delta/R_a \quad (6)$$

Then expression for $E_{na_2}^2$ follows from Eq. (3):

$$E_{na_2}^2 = 4kT\Delta/R_a(t_A - 1). \quad (7)$$

The noise power $P_{n \text{ out}}$ is considered as composed of two components: $P_{n \text{ out}} = P_{n \text{ out}_1} + P_{n \text{ out}_2}$, where $P_{n \text{ out}_1}$ is the noise power at the load produced jointly by the feeder and the E_{na_1} generator, and $P_{n \text{ out}_2}$ is the noise power at this load produced by the E_{n_2} generator only,

Card 4/11

On the Influence of Feeder Parameters on the Noise Coefficient and Sensitivity of a Receiving System

77180
SOV/103-15-1-6/13

the feeder being considered as noiseless. Expressing $P_{n\ out_1}$ and $P_{n\ out_2}$ as functions of E_{na_1} and E_{na_2} , respectively, and introducing for the feeder attenuation, an expression is derived for the noise coefficient of the feeder shown as

$$N_{af} = 1 + \frac{1}{t_A} (e^{2\beta \ell} - 1). \tag{15}$$

where β is the feeder attenuation per unit length and ℓ is the geometric length of the feeder. It is seen that N_{af} does not depend on the mismatch coefficients q_0 or q . It depends only on the feeder parameter β and ℓ and on t_A . The receiving system consisting of antenna, feeder, and receiver is represented by the block diagram shown in Fig. 3. Here, R is the receiver

Card 5/11

On the Influence of Feeder Parameters on the Noise Coefficient and Sensitivity of a Receiving System

77180
SOV/103-15-1-6/13

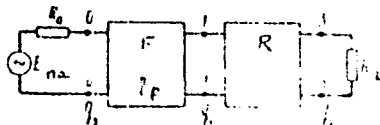


Fig. 3.

and R_L is the receiver load, other designations being the same as in Fig. 1. The noise coefficient of this system N_{afr} is defined as the ratio $P_{n \text{ out afr}} / P_{na \text{ out afr}}$, where $P_{n \text{ out afr}}$ is the total noise power at the receiver load and $P_{na \text{ out afr}}$ is the noise power produced at this load by the antenna noise. Based on the general expression for the noise coefficient of a multicascade system given in a previous Soviet publication (V. I. Siforov, Radiopriyemniki sverkhvysokikh chastot, Military

Card 6/11

On the Influence of Feeder Parameters on
the Noise Coefficient and Sensitivity of
a Receiving System

77180

SOV/108-15-1-6/13

Press, 1957), the following expression is derived for
 N_{afn} :

$$N_{\text{afn}} = 1 + \frac{1}{h_1} + \frac{K_1}{h_1} N \quad (24)$$

where N is the noise coefficient of the receiver
defined as

$$N = 1 + K_1 h_1 + \frac{(K_1 + 1)^2}{K_1} \quad (22)$$

Here $K_1 = R_a/R_{1r}$ is the input-matching coefficient;
 h_1 is coefficient of the input noise, and $\alpha = R_n/R_{1r}$,
 R_n being a tube parameter characterizing the noise of

Card 7/11

On the Influence of Feeder Parameters on the Noise Coefficient and Sensitivity of a Receiving System

77180

SOV/108-15-1-6/13

the plate circuits. An optimum magnitude $K_{1 \text{ opt}}$ of the matching coefficient K_1 is obtained for which N (and, therefore, N_{aff}) is a minimum

$$K_{1 \text{ opt}} = \sqrt{\frac{1}{h_1 + 1}} \quad (25)$$

$K_{1 \text{ opt}}$ depends neither on t_A nor on the feeder parameters β or ℓ . Therefore, a receiver designed and adjusted so as to give $K_{1 \text{ opt}}$ will maintain this optimum condition after being connected to the receiving system. The sensitivity of the receiving system is defined as the minimum value of the nominal power $P_{\text{sa min}}$ of a generator, the internal resistance of which equals R_a , the generator assuring the desired value of signal-to-noise power ratio D at the output. Replacing

Card 8/11

On the Influence of Feeder Parameters on
the Noise Coefficient and Sensitivity of
a Receiving System

77180
SOV/108-15-1-6/13

in the expression for D the output noise power $P_{n \text{ out afr}}$ by $P_{an \text{ out afr}}$ (see definition of N_{afr} above), and using Eq. (24), the following expression for the sensitivity is obtained:

$$E_{s_{\text{min}}} = (Eh) = \sqrt{4kTR_u D \Delta f (t_A - 1 + e^{2t} N)}, \quad (30)$$

where E is the field intensity at the place of reception and h is the active height of the receiving antenna. The sensitivity $(Eh)_{\text{min}}$ obtained under the assumption that $t_A = 1$, $\beta l = 0$, and $N = 1$, is called "ideal". The ratio $(Eh)_{\text{min}} / (Eh)_{\text{min}}$ is given in db as

$$\frac{(Eh)_{\text{min}}}{(Eh)_{\text{min}}} = 10 \lg (t_A - 1 + e^{2t} N) [\text{db}]. \quad (33)$$

Card 9/11

On the Influence of Feeder Parameters on
the Noise Coefficient and Sensitivity of
a Receiving System

77180
SOV/102-15-1-6/13

This relationship is represented graphically for various N and t_A values. From the curves it may be seen that the sensitivity of the receiving system is better when the receiver is matched by the minimum noise coefficient ($K_1 = K_{1 \text{ opt}}$) rather than by the maximum power ($K = 1$). The relative antenna noise temperature t_A varies during the day, depending also on the season. It is possible to find t_A experimentally using the following expression:

$$t_A = 1 + e^{2N}(C - 1). \quad (39)$$

Here $C = P_{n \text{ out}} / \sqrt{P_{n \text{ out}}}$, where $P_{n \text{ out } r}$ is the noise power at the receiver output when only the resistor R_a is connected to the input. When C is determined by

Card 10/11

On the Influence of Feeder Parameters on
the Noise Coefficient and Sensitivity of
a Receiving System

77180
SOV/108-15-1-6/13

measuring the above noise powers, t_A may be found from
a graph where the relationship between C and t_A is
plotted for various values of $e^{2\beta} N$. Another method
for determining C uses a noise generator calibrated in
noise coefficient units. This generator is substituted
for the antenna and feeder, when maintaining the same
level at the receiver output. Since t_A has to be
measured after short time intervals, the installation of
an automatic recording apparatus is suggested. There
are 10 figures; and 6 Soviet references.

SUBMITTED: September 4, 1958

Card 11/11

AASTYAB, M.Yu., kand. tekhn. nauk

Weight of railroad and automobile traffic on underground structures. Prom. stroi. 41 no.7:46-47 J1 '64.

(MIRA 17:8)

1. Tsentral'nyy nauchno-issledovatel'skiy i proyektno-eksperimental'nyy institut promyshlennykh zdaniy i sooruzheniy.

AAVER, E., kand. ved. nauk; AVARSOO, H., red.; PEDARI, J., tekhn. red.

[Viruses] Viirused. Tallinn, Eesti Riiklik Kirjastus, 1961.
112 p. (MIRA 16:1)

(VIRUSES)

AAVER, E.A. Cand Vet Sci (disc) "On the etiology of influenza
in hogs, and measures to combat this ^{disease} ~~illness~~ in the Estonian SSR."
Tartu, 1957 19 pp ^{with diagrams} 20 cm. (USSR Min Agr; Eston Agr Acad) 150 copies
(KL, 12-57, 105)

USSR / Virology. Human and Animal Viruses.
Swine Disease Viruses.

E-3

Abs Jour : Ref Zhur - Biol., No 20, 1958, No 90582

Author : Aaver, E.A.

Inst : Estonian Scientific Research Institute for Agriculture and
Melioration.

Orig Pub : Byul. nauchno-tekhn. inform. Est. n.-i. in-t zemledel. i
melior., 1957, No. 1, 73-75

Abstract : By infecting chicken embryos and white mice 2 strains of
virus were isolated which agglutinated chicken erythrocytes.
Serums collected from 100 hogs were studied in RTGA. In
75 cases, the antibodies were not detected. In 18 cases,
antibodies against the hog influenza virus were discovered;
in 20 cases, those against the human influenza virus were
ascertained; antibodies against both viruses were determi-
ned in 14 cases. -- From the author's summary.

Card 1/1

AAVER, E.; ^{A.} JANOV, L.

"Avoiding illnesses of farrows in winter."

p. 545 (Sotsialistlik Põllumajandus) Vol. 12, no. 12, Dec. 1957
Tallinn, Estonia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

AB, E.A.; ANDRIANOVA, G.M.; FLOTNIKOV, R.I.; KHUTSISHVILI, L.A.

Portable X-ray tubes for geophysical apparatus. Vop.rud.geofiz. no.4:
130-333 '64. (MIRA 1841)

AB, E.A.; LEVITIN, A.I.; PLOENIKOV, R.I.

Temperature quenching of the luminescence of oil. Geofiz. prib. no.20:
97-98 '64. (MIRA 13:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut razvedochnoy geo-
fiziki.

AB, E.A.; ANDRIANOVA, G.M., PLOENIKOV, R.M.; KHUTISHVILI, L.A.

Universal accelerating tube. Vop. rad. fiz. no. 5:140-
141 '65. (MIRA 13:9)

L 14646-66 EWT(1) GW
ACC NR: AT6004295

SOURCE CODE: UR/3175/65/000/026/0044/00411

AUTHOR: Ab, E. A.; Gordin, V. L.; Levitin, A. I.; Filippov, V. A.

29
27
B+1

ORG: none

TITLE: A portable source of ultraviolet radiati...

SOURCE: USSR. Gosudarstvennyy geologicheskiiy komitet. Osoboye konstruktorskoye byuro. Geofizicheskaya apparatura, no. 26, 1965, 44-48

12,44,55 12,44,55

TOPIC TAGS: UV light source, spectral distribution

ABSTRACT: The authors describe a portable radiation source designed for operation in the UV region of the spectrum at about 254 and 320-400 mμ. The spherical envelope of the tube is made from ordinary uviol glass and is about 15 mm in diameter with a wall thickness of the order of fractions of a millimeter. The radiation spectrum of the tube may be expanded by coating the inside of the envelope with a phosphorescent material which emits radiation in the desired spectral region. If part of the surface of the envelope is left uncoated (a "window"), the same tube may be used for bidirectional radiation in different spectral regions. Optimum supply fre-

Card 1/2

2

L 14646-66
ACC NR: AT6004295

2
quency was found to be of the order of 100 Mc. A power of the order of 12 w and a frequency of about 100 Mc gave a surface radiation density in the 254 mμ range approximately fifty times that of BUV-15 tubes (15 w) and nearly equal to the surface density for PRK tubes. Application of L-33 phosphor increases emission in the 320-400 mμ with a surface radiation density approximately 30-40 times that of the UFO-4A tube which has similar spectral distribution. An increase in tube power is not recommended since it may darken or melt the glass of the envelope. Tables and curves are given illustrating the characteristics of spectral distribution for emission from these tubes. The authors are sincerely grateful to L. A. Khutsishvili and N. N. Klimenko for their participation in this work. Orig. art. has: 3 figures, 2 tables.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 004/ CTH REF: 001

Card 2/2 *AC*

L 04/01-66 EXP(1) GWP(m)/T/EXP(j) IJP(c) RM/GW

ACC NR: AT6026960

SOURCE CODE: UR/3175/60/000/028/0170/0173

AUTHOR: Ab, E. A.

ORG: VIRG

4
39
201

TITLE: X-ray tubes with an adjustable spectrum

SOURCE: USSR. Gosudarstvennyy geologicheskyy komitet. Osoboye konstruktorskoye byuro. Geofizicheskaya apparatura, no. 28, 1966, 170-173

TOPIC TAGS: x ray apparatus, x ray application, x ray spectrum, ~~laboratory instrument~~

x ray tube, x ray analysis

ABSTRACT: This article describes the development of various portable sealed low-power x-ray tubes with an adjustable emission spectrum. The first effective model of a tube was simple and intended for an instrument analyzing powder specimens of polymetallic ores for copper and zinc. Ge radiation was used to excite the sought elements and the Ga radiation was used for introducing correction for changes in the composition of the enclosing rock. An anode unit from a standard tube is used in the design. The copper cone, which is fastened in the upper part of the rotating anode unit, is anodized. A beryllium window for the escape of the comparatively soft Ge and Ga radiation is fastened on the glass cylinder of the tube by a special epoxy resin. Gallium oxide is applied to the copper in the form of paste and is hardened by means of vacuum

Card 1/2

L 44021-06

ACC NR: AT6026960

heat treatment. The Ge can be applied either by spraying or in the same manner as Ga in the form of a paste, but made of metal powder. At voltages of the order of 40 kv and beam current of about 250 μ a the yield of radiation for Ge is about 10^{13} quantum/sec and for Ga about one-half as much, mainly due to the lower density of pure Ga in its oxide. This intensity exceeds by more than a factor of 10^3 that of ampule isotope sources. The intensity of the exciting radiation can be increased by more than an order of magnitude in the tubes with the window escape of radiation by focusing the tube closer to the investigated specimen. The introduction of various modifications of these tubes with an adjustable emission spectrum will undoubtedly appreciably expand the possibility of using x-ray spectral analysis. The first version of this tube has been successfully used in analyzing ores and their enrichment products for copper and zinc. The author thanks G. M. Andrianov, L. A. Khutsishvili, and R. I. Plotnikov for participating in the development of the first effective models of x-ray sealed portable tubes with an adjustable emission spectrum. Orig. art. has: 2 figures. [26]

SUB CODE: 09,20/SUBM DATE: none/ ORIG REF: 001/ OTH REF: 002

Curd 2/2 blc

L 47099-66 EWT(1)/EWT(m) WVV

ACC NR: AR6016491 SOURCE CODE: UR/02'2/65/000/012/0108/0108

AUTHOR: Ab, E. A.; Andrianova, G. M.; Plotnikov, R. I.; Khutsishvili, L. A.

463

TITLE: Special tubes for the portable equipment for x-ray spectral analysis

SOURCE: Ref. zh. Metrologiya i izmeritel'naya tekhnika, ¹⁰Abs. 12.32.930

REF SOURCE: Sb. Geofiz. priborostr. Vyp. 22. L., Nedra, 1965, 81-87

TOPIC TAGS: x ray emission, x ray measurement, x ray spectrum, x ray spectroscopy, spectrum analysis, x ray tube, portable x ray equipment

ABSTRACT: The drawbacks and limitations of x-ray radiometric analysis with the use of type T^{170} or $BaC^{140}O_3$ γ -quantum isotope sources are pointed out. In developing dispersionless field spectrometers, the use of special x-ray tubes makes it possible to increase emission efficiency considerably, to provide for radiation measurement safety while simplifying protection by the absence of the hard-emission component and to alter the spectral composition of the emission either by replacing the plates or by using secondary emitters. Examples of

Card 1/2

UDC: 389:539.184:537.531:621.386.2

L 47099-66

ACC NR: AR6016491

0

using tubes with various methods of excitation in assaying rock specimens for zinc and lead are presented. A technical description of BSV-5 and BSV-7 tubes designed for structural analysis is given, and considerations concerning their use in x-ray radiometric analyses are proposed. Basic specifications for special tubes of portable field x-ray radiometric equipment are established, and ways of developing them are outlined. [Translation of abstract] [DW]

SUB CODE: 20, 09, 18/

hs

Card 2/2

AB, G.A.

Structure development in rubber sols under the action of active fillers. P. Rehinder, G. A. Ab, and E. J. Veiler (*Compt. rend. Acad. Sci. U.R.S.S.*, 1941, 41, 446-447).—In presence of active SiO_2 sols of Na-betadless rubber (10–11% in PhMe) develop a continuous structure. Even with $[\text{SiO}_2] = 0.78\%$ there is an appreciable increase in yield val. and anomalous η . Inactive fillers (ground CaCO_3 , marshallite, orthoclase) have no structure-forming properties. It is possible that besides transferring the rubber into the film-like state of solvate films, active filler particles act as centres for continuous structure formation by orienting polymer chains under the action of the adsorption field of the particles. Presence of H_2O in the SiO_2 inhibits structure formation. Structure formation also occurs in sols prepared in light petroleum and CHCl_3 . C. R. H.

AB, G. A.

USSR/Chemistry - Emulsions
Chemistry - Phases

Jan 1947

"A Study of the Reversion of Phases in Emulsions," P. A. Rebinder; G. A. Ab, N. L. Gol'danberg, Section for Dispersed Systems, Institute of Physical Chemistry, Academy of Sciences of the USSR, 6 pp
"Kolloidnyy Zhurnal" Vol IX, No 1

The study of self-formed particulars of the process of reversion of phases in emulsions, i.e., the transformation of a emulsion of one type, e.g., a reverse emulsion of water in oil (W/O), into a direct emulsion of the type (O/W) or oil in water. Data obtained was in agreement with the principles expressed by Finkle, Draper, and Kildebrand with regard to the characteristic of soaps-potassium, sodium to emulsify oil in water.

PA 3476

1/ Preparation of photographic emulsion: for pouring
G. A. AB. S. M. Kocimova, and S. M. Lev. U.S.S.R.
109,797. July 26, 1959. Org. substances capable of fixing
the active groups of gelatin are added to the photographic
emulsion. In order to lower the viscosity of the emulsion there are added
substances such as pyrim. M. 1000.

3

AB, Sh.L., inzh.; ZOTOV, P.I., inzh.

F.P.II'in, an efficiency expert. Energetik 11 no.1:33-34 Ja
'63. (MIRA 16:1)

(Electric power plants)
(Electric power distribution)

PROCESSES AND PROPERTIES INDEX

3

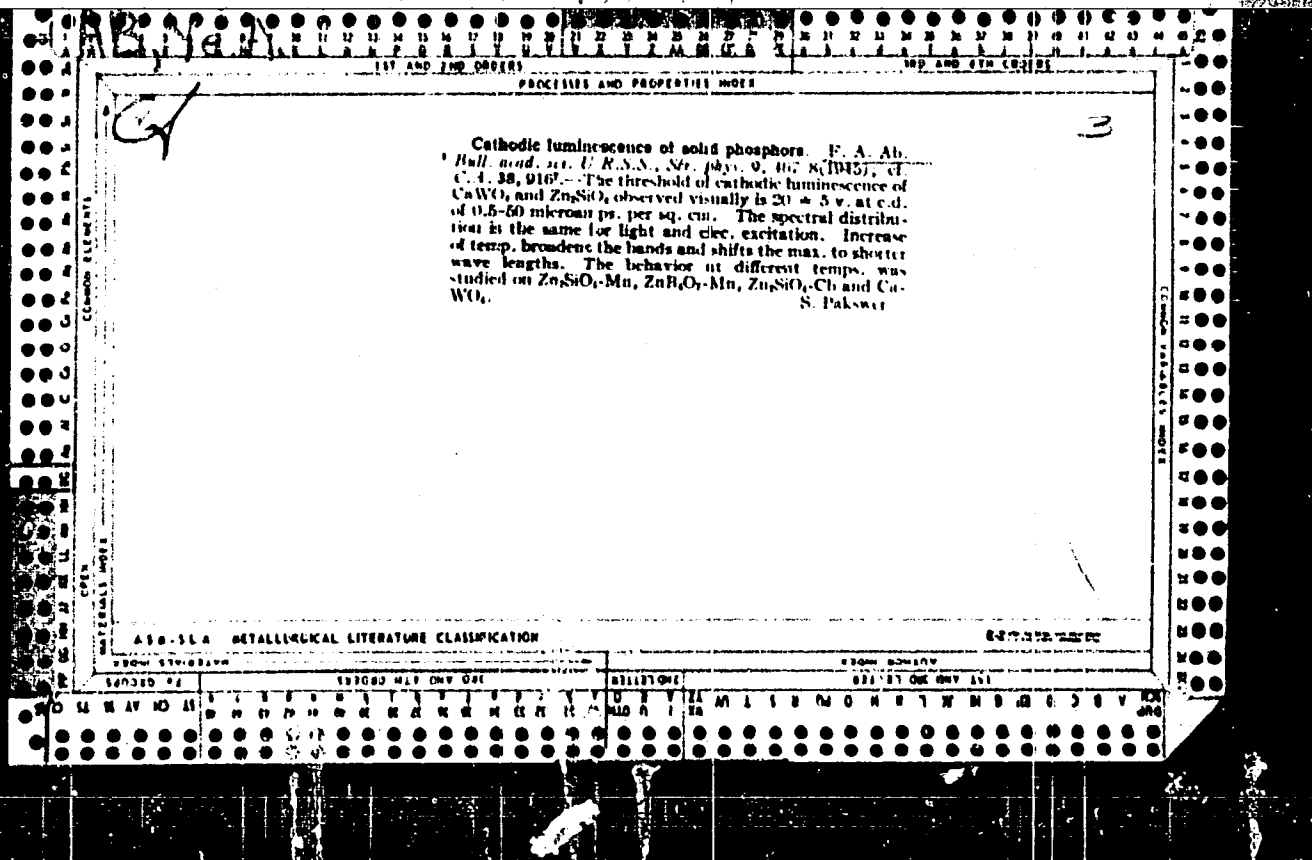
CA

Mechanism of cathodic luminescence of solid phosphors
 H. A. Ah. *J. Tech. Phys. (U. S. S. R.)* 13, 182 7(1943)

Measurements were made (1) of the threshold of cathodic luminescence as a function of the velocity of impinging electrons, found to be 20 - 5 v. for c. ds. of 0.1-0.5 millamp /sq. cm. in the case of CaWO₄ and ZnSO₄. Mn. (2) of spectrophotograms of phosphor radiation, excited either by light ($\lambda = 208 \text{ m}\mu$) or by cathode rays and taken on the same photographic plate. The temp. of the phosphor was varied from -183° to about +100°. Spectral distribution was identical for both forms of excitation. Above +100° the light output of cathodic luminescence dropped. The theories of Riedl and Sekka (*Z. J. 34, 387*) and Johnson (*J. J. 33, 914*) for photoluminescence can be applied to cathodic luminescence. A suggests avoidance of the formation of colloidal particles in the luminescent materials in order to increase the light output.

B. Pakawer

METALLURGICAL LITERATURE CLASSIFICATION



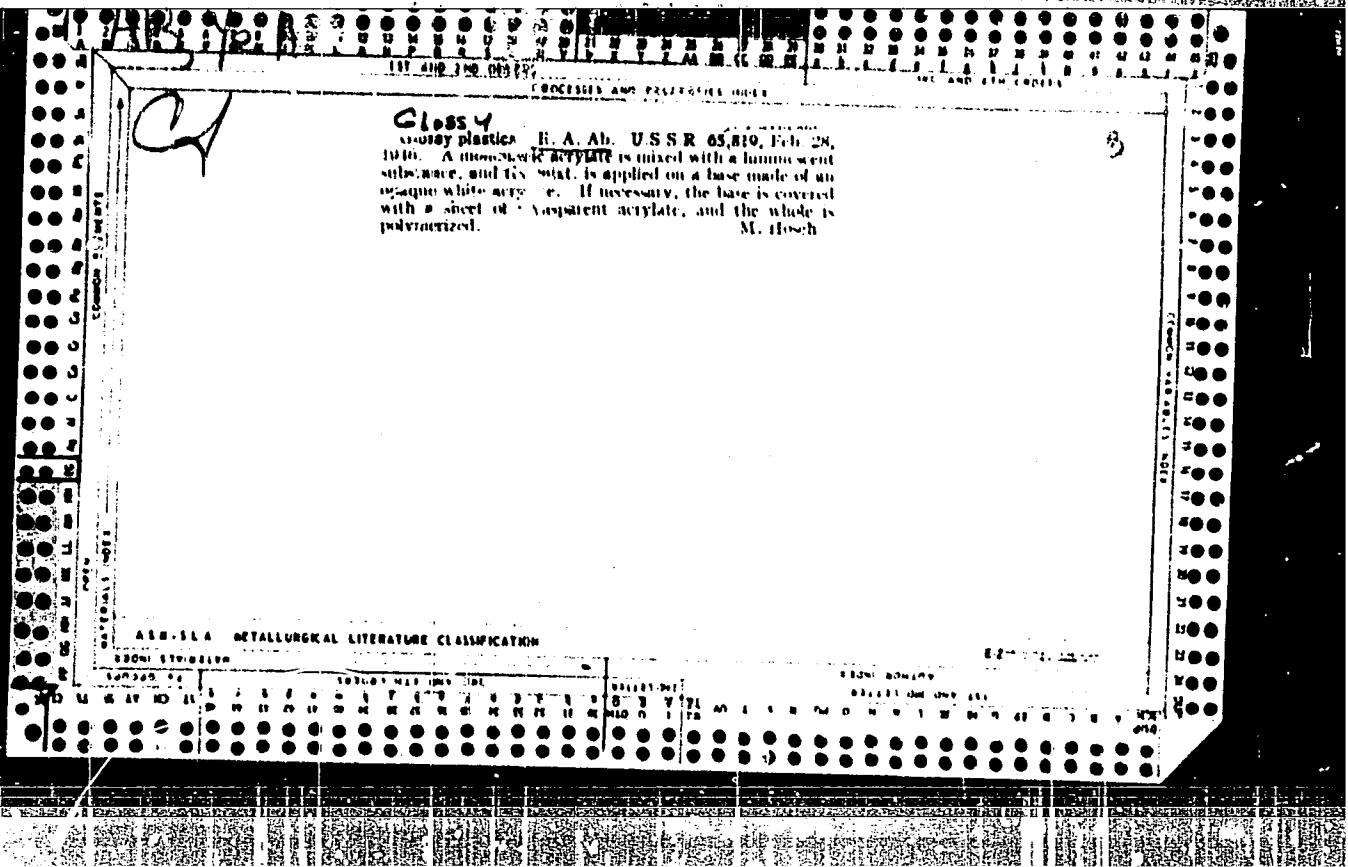
AB, Ne, A

PROCESSES AND PROPERTIES

31

The basic properties and the application of luminescent plastics. E. F. Ab (Plastics Inst. Moscow). *Bull Acad. Sci. USSR Div. Chem. Phys. Ser. B* 4(1945) Green phosphorescent ZnS and blue alk. earth sulfide base incorporated in a methacrylate type plastic. The such properties of the plastic and the luminescent properties of the material are not impaired by their combination. Incorporation of fluorescent powders gave less favorable results owing to poor transparency of the material. Activation by a part of the plastic mass also gave reduced brilliancy. In this case a patly of the luminescent mass and benzophenone can be pressed between 2 plates of methacrylate, the back plate being opacified with TiO₂. Tri-tolyl phosphate and dibutyl phthalate can be added to plastics to increase the elasticity. The thermal resistance of this plastic is slightly decreased and the absorption of H₂O slightly increased. The optimum content of the luminescent material was 20% for 2 mm. sheet, 25-30% for 1.5 mm. sheet. The luminescent plastic Acry. 6 and St. 1. M. Vygulskaya. *Ibid.* 5(1945) Methylmethacrylate in powder form was mixed in a Vicker mixer with the luminescent powder (ZnS, ZnCuS, alkali earth sulfides) for 10-20 min. Methylmethacrylate mixed with catalyst (benzoyl peroxide) was introduced into the mixt. which was pressed in plates after 5-10 min. further mix. The plasticizer (tritolyl phosphate, dibutyl phthalate) could be introduced with the monomethacrylate. Pressing was done in hydraulic press with heating and cooling facilities. Chromed lenses are necessary for pressing. Plastic luminous material is superior to powders in its luminescent qualities. Mech. properties, thermal resistance, and absorption of H₂O are indicated. To obtain softer plastics polyvinyl chloride may be added to the polymethacrylate.

AND SEE OTHER LITERATURE CLASSIFICATION



20702

S/120/61/000/001/040/062
E032/E114

21,2100

AUTHORS: Ab, E.A., Andrianova, G.M., Plotnikov, R.I., and
Khutsishvili, L.A.

TITLE: A Portable Accelerating Tube Incorporating an Ion
Source for a Neutron Generator

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.1, pp 129-130

TEXT: The accelerating tube has been developed for a small-
size neutron generator which will replace the Po-Be neutron
source used in oil and gas well sampling by the Leningradskiy
Filial, Vsesoyuznyy nauchno-issledovatel'skiy institut
geofizicheskikh metodov razvedki (Leningrad Branch, All-Union
Scientific Research Institute of Geophysical Exploration Methods).
The accelerating tube is illustrated schematically in the figure.
The neutrons are produced as a result of the D + T reaction.
accelerated deuteron ions bombard a zirconium-tritium target of a
standard type. In order to maintain the pressure in the tube at
the required level, a system of getters and pumps is employed.
The ion tube is of the arc type and consists of a cylindrical
anode and two disc cathodes. The cathode facing the target has
Card 1/4

20702

S/120/61/000/001/040/062
E032/E114

A Portable Accelerating Tube Incorporating an Ion Source for a Neutron Generator

an aperture through which positive ions are extracted. The magnetic field which is necessary to focus the ionizing electrons can be produced either by a permanent magnet or a solenoid. If a steel body is used, an electromagnet is preferable. A target is located in a massive copper holder so that the instrument can be used without forced cooling for a minimum of 5 to 6 hours. A special electrode in the form of a truncated cone is mounted on the target holder and prevents the occurrence of an avalanche discharge. The negative potential of this electrode is obtained by means of a bias resistor. The deuterium is stored in a special getter as indicated. The getter is made of titanium, or a mixture of zirconium and titanium. The deuterium is re-emitted when the getter is heated. It is re-absorbed when the getter is cooled down. The tube has the following characteristics: length 350-400 mm, diameter 35-40 mm, weight 500 g, maximum external pressure 15 atm, deuterium-store heating current 0.3-0.8 A, anode voltage in the ion gun
Card 2/4

20702

S/120/61/000/001/040/062
E032/E114

A Portable Accelerating Tube Incorporating an Ion Source for a Neutron Generator

400 to 1000 V, magnetic field strength 600 oe, maximum accelerating voltage 70-110 kV. Three times as many neutrons can be obtained with this tube as with a Po-Be source. With a current at the target of 80 μ A, and an accelerating voltage of 110 kV, the neutron yield was 450 curie (\pm 30%).

There is 1 figure.

ASSOCIATION: Leningradskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta geofizicheskikh metodov razvedki (Leningrad Branch, All-Union Scientific Research Institute of Geophysical Exploration Methods) X

SUBMITTED: February 13, 1960

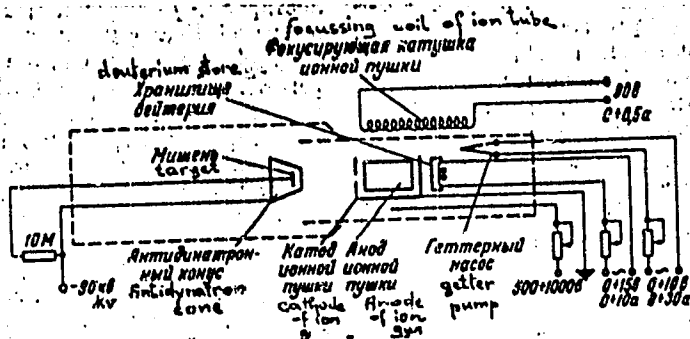
Card 3/4

A Portable Accelerating Tube

20702

S/120/61/000/001/040/062

E032/E114



Figure

Card 4/4

Ab, Z. A.

USSR/ Engineering - Structural materials

Card 1/1 Pub. 104 - 6/12

Authors : Ab, Z.A., and Ostryakov, A.S.

Title : Control of the clay-powder quality in dry-pressing brick manufacturing

Periodical : Stok. 1 ker. 5, 18-21, May 1954

Abstract : The different grain clay-powders having a moisture content of from 5 to 12%, and the dry-pressing of bricks was investigated by the All-Union Scientific Research Institute in Leningrad in order to determine the structural quality of clays, and the efficiency of dry-pressing methods. Graphs; table; diagrams.

Institution:

Submitted: