

BOGOMOLOV, G.V.; PLOTNIKOVA, G.N.; TITOVA, Ye.A.

Silica in the underground waters of some foreign countries.
Dokl. AN BSSR 9 no.2:105-107 F '65. (MIRA 18:5)

1. Laboratoriya geokhimicheskikh problem AN BSSR i Geologicheskii
institut AN SSSR.

RUDNYY, N.M., kand.tekhn.nauk; BOGOMOLOV, G.Ya.; KOLOMIYETS, A.R.;
KLIMENKO, A.P.; LIPOVETSKAYA, G.I.; RAZINKOV, A.I.

Acoustic pickup of the presence of a flow of fluid viscous
and powdery materials. Avtom.i prib. no.3:55-58 J1-S '62.
(MIRA 16:2)

1. Institut avtomatiki Gosplana UkrSSR.
(Flowmeters)

KOLMOGOROV, V.L.; ORLOV, S.I.; SELISHCHEV, K.P.; LEKARENKO, Ye.M. [deceased];
POKROVSKAYA, G.N.; TIKHONOV, D.Ya.; BOGOMOLOV, I.F.

Drawing wire of nonferrous metals and alloys in conditions of fluid
friction. TSvet. met. 36 no.12:65-67 D '63. (MIRA 17:2)

IGNATOK, A.I., red.; SHAYKEVICH, A.S., red.; VOLKOV, Yu.N., red.;
EL'TERMAN, Ya.M., red.; PERLOVA, S.A., red.; NIKOLAYEV, N.A.,
red.; ERENBURG, G.S., red.; BUTKOVSKAYA, Z.M., red.;
CHERNILOVSKAYA, F.M., red.; YANKOVSKIY, V.F., red.; MALYGIN,
O.P., red.; BOGOMOLOV, I.G., red.; KOZLOV, A.A., red.; SMIRNOV, I.I.,
inzh., red.; ROGOV, B.A., red.; PETRUKHOVA, G.N., red. izd-va;
DEMkina, N.F., tekhn. red.

[Safety and industrial sanitation regulations for making boilers
and metal constructions]Pravila tekhniki bezopasnosti i proiz-
vodstvennoi sanitarii pri proizvodstve kotel'nykh rabot i metallo-
konstruktsii. Uтверzhdeny 29 avgusta 1961 goda. Moskva, Mashgiz,
1962. 28 p. (MIRA 15:12)

1. Profsoyuz rabochikh mashinostroyeniya SSSR. 2. Glavnyy tekhnicheskii inspektor Tsentral'nogo komiteta profsoyuzov rabochikh mashinostroyeniya (for Ignatok). 3. Starshiy nauchnyy sotrudnik Leningradskogo instituta okhrany truda Vsesoyuznogo tsentral'nogo soveta profsoyuzov (for Shaykevich, Volkov, El'terman, Perlova). 4. Nachal'nik otdela Vsesoyuznogo proyektno-tekhnologicheskogo instituta tyazhelogo mashinostroyeniya (for Nikolayev). 5. Starshiy nauchnyy sotrudnik Leningradskogo instituta gigiyeny truda i profzabolevaniy (for Erenburg, Butkovskaya, Chernilovskaya).

(Continued on next card)

BOGOMOLOV, I. I.: Master Tech Sci (diss) -- "High-frequency current transformers. Computation, analysis of errors, and design". Moscow, 1959. 10 pp (Min Communications USSR, Moscow Electrical Engineering Inst of Communications), 150 copies (KL, No 13, 1959, 104)

BOGOMOLOV, I.O., agronom

Michurin orchard. Gor.khoz.Mosk. 34 no.4:23-28
Ap '60. (MIRA 13:8)
(Moscow--Fruit culture)

BOGOMOLOV, I.P.

How we made a small-cylinder-capacity tractor. Politekh. obuch. no.5:
79-86 My '57. (MIRA 10:6)

1. Srednyaya shkola No.3 g. Kotel'nich Kirovskoy oblasti.
(Tractors)

ANTONOV, V. I., kand.tekhn.nauk; BOGOMOLOV, I.V., inzh.¹

Grooved wood drains in the Meshchera Lowland. Gidr.1
mel. 12 no.7:47-52 J1 '60. (MIRA 13:7)

1. Meshcherskaya opytno-meliorativnaya stantsiya.
(Meshchera--Drainage)

KIR'YANOV, A.K.; PAZDNIKOV, P.A.; BABACHANOV, I.F.; DUDIN, R.N.;
Prinimali uchastnye: BOGOMOLOV, I.Ye.; ROMANOV, G.K.;
SUKHORUKOV, Yu.P.; SAVINTSEV, P.R.

Slag depletion in tubular rotary furnaces. TSvet. met. 36 no.9:
29-32 S '63. (MIRA 16:10)

BOGOMOLOV, K.S.

Seventieth birthday of Artavazd Ovsepovich Kondakhchan,
1895- . Zhur.nauch.i prikl.fot. i kin. 10 no.3:239
My-Je '65. (MIRA 18:11)

PROCESSES AND PROPERTIES INDEX

3

Spectroscopic investigation of the electrical oxidation of nitrogen. R. N. Bremin, K. S. Bogomolov, N. I. Koburev and S. S. Vasil'ev. *J. Phys. Chem.* (U. S. S. R.) 11, 31-44 (1938).—The emission spectrum of a glow discharge in N₂ contains the II pos., the I pos. and the I neg. group of N₂ lines. In air, in addn. to these, the γ group of NO and, at pressures greater than 70 mm. Hg, a continuum between 6400 and 6000 Å. appear. The intensity of the continuum rises and that of the bands decreases, with increasing pressure (3-500 mm.). Both intensities increase with the current strength (100-300 ma.). Most of the emission is due to excited mols. and only 1.5-4% to excited ions. B. C. P. A.

A.S.M.S.E.A. METALLURGICAL LITERATURE CLASSIFICATION

1938-1947

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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PROCESSES AND PROPERTIES INDEX

4

CP

The basic principles for preparation of films for x-ray photography. K. S. Bogomolov. *Kinofotokhim. Prom.* 1939, No. 8, 35-9; *Khim. Referal. Zhur.* 1940, No. 5, 122.

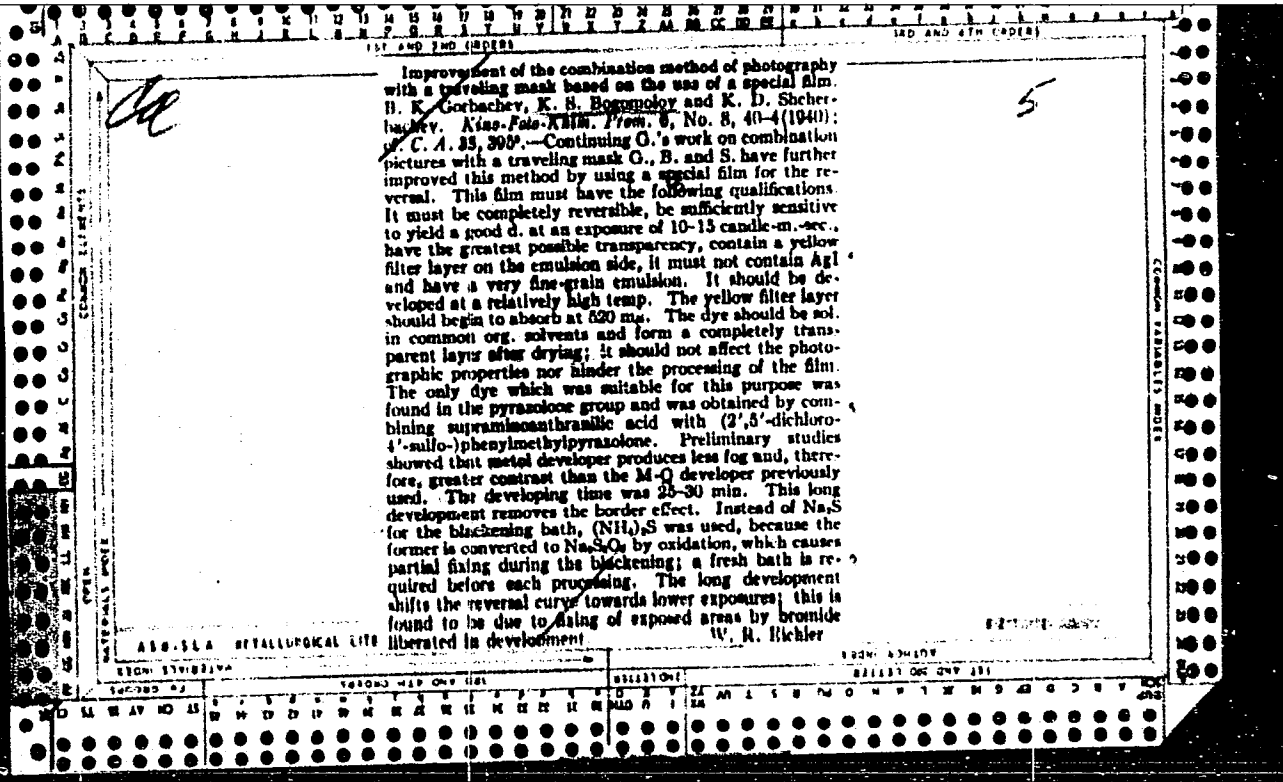
For x-ray emulsions the gelatin should contain not more than 0.004% of Fe, concn. of AgI₂ should be max., and particles should be coarse (if possible in the form of aggregates) produced by a rapid single emulsification. The x-ray emulsion obtained according to the method of B. requires no optical sensitization. The x-ray films have a high total light sensitivity and high sensitivities to x-rays either with or without an intensifying screen.

W. R. Henn

A.S.M.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

A.S.M. INDEX

GROUP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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BOGOMOLOV, K. S.

27166 BOGOMOLOV, K.S. , MOSHKOVSKIY, YU. SH. - Vliyaniye desensibili-zatsii na rentgenochuvstvitel'nost' fotograficheskikh emul'siy. Zhurnal prikl. Khimii, 1949, No. 8, s. 831-34. - Bibliogr: 5 nazv.

SO: Letopis' Zhurnal'nykh Statey, Vol. 36, 1949

CA

Effect of desensitization on the sensitivity of photographic emulsions to x-rays. K. A. Ilegundov and Yu. Sh. Mostikovskii (Kino-Photo Research Inst.). *Zhur. Priklad. Khim.* (J. Applied Chem.) 22, 831-4(1949). Treatment with phenosafranin (in 1:2000 soln.) before exposure resulted in a lowering of its sensitivity S to visible light by a factor of 150, while S of the same emulsion to x-rays was decreased only by a factor of 8.4. Treatment with phenosafranin after exposure left S unchanged to visible light, but decreased the S to x-rays by a factor of 1.8. Similar results were obtained with $CuCl_2$ and with HgI₂ as desensitizers. The basic difference between the mechanisms of formation of the latent image in visible light and in x-rays is that, whereas absorption of one quantum of visible light produces only one second. electron, a quantum of x-rays produces a no. of electrons. Consequently, the action of x-rays is concentrated in relatively few grains, whereas that of visible radiation effects and is distributed over a large no. of grains. The elec-

tronic energy levels of an x-ray latent-image center evidently lie higher than those of a visible-light center. An x-ray latent-image center is smaller, and the oxidizing action of the desensitizer is more pronounced. N. Thon

*Photostats
P. H. Jones*

GA Solarization by electrons K. S. Rogomolov and V. N. Zharikov, *Doklady Akad. Nauk SSSR*, 92, 1161-2 (1953).--The characteristic curves of pos. film exposed to electrons and to light ($\lambda = 4358 \text{ \AA}$) were compared. The energy of the electron beam was $4.6 \times 10^4 \text{ e.v.}$ An electron microscope with special attachments for introducing and exposing film and for measuring the current ($\sim 10^{-8} \text{ amp.}$) was used. The current was measured before and after each exposure. The exposed film was cut into 5 strips which were developed for 0.5, 1, 2, 6, and 12 min., resp., fixed, and measured in a photometer. $E_s \sim (n_{e1} E_{e1} C) / N$ where $E_s = \text{av. energy absorbed by 1 grain at the beginning of solarization}$, $n_{e1} = \text{no. of electrons on unit of area on which solarization begins}$, $E_{e1} = \text{energy of electrons}$, $C = \text{wt. \% AgBr in emulsion}$, and $N = \text{no. of emulsion grains in 1 sq. cm.}$ Eurilla Mayerle

①

S. H. Jones

BOGOMOLOV, K. S., DOBROSERDOVA, E. P. and YARKOV, V. N.

"Investigation of the Electron Sensitivity of Photographic Emulsions," paper
given at the International Conference on Scientific Photography, Cologne, 24-27 Sep
1956

E-3,068,138 aut E-307236

BOGOMOLOV, K.S.

~~Identity~~ identity of two stages in latent image formation affected by
charged particles and visible light. Zhur.nauch. i prikl. fot,
i kin. 1 no.1:6-9 Ja-P '56. (MLRA 9:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut.
(Photography--Latent image)

Original text

2

Quantitative investigations of the photographic effect of electrons of various energies. I. Experimental investigation of electronic sensitivity of emulsions with varying degree of ripening. K. S. Bogomolov, E. P. Dubrovskaya, and V. N. Zharikov. *Zhur. Nauch. Fizich. Eksp. i Kinetograf.* 1, 19-22(1959); *J. C.A.* 50, 4127. Plates coated with a nonsensitized emulsion (I) and a plate coated with a sensitized one (II), all of which had been subjected to secondary ripening for a time (t) of 0.5-4.5 hrs., were exposed to electron beams of energies from 20 to 90 keV and the resulting S_0 were measured. The sensitivities (S_0), defined as $E \cdot q$, where D and q are d and total quantity of electrons incident on a coast area of the emulsion, respectively, tabulated with I , values of t in hrs. and S in units per 10^{12} electrons for 20-, 50-, and 90-keV electrons in that order are 1.5, 0.7, 2.0, 2.9; 2.0, 11.7, 22.0, 45.7; 3.5, 18.3, 52.8, 59.0; 4.5, 10.0, 62.5, 141. With II the corresponding values are: 0.5, 0.2, 1.3, 2.9; 2.0, 14.5, 53.7, 50.1; 3.5, 22.6, 22.1, 161; 4.5, 20.1, 93.9, 222. II. Dependence of the electronic sensitivity of a photoemulsion on the dimensions of the emulsion microcrystals. K. S. Bogomolov, E. P. Dubrovskaya, and V. N. Zharikov. *Zhur. Nauch. i Priklad. Fiz. i Kinetograf.* 1, 34-38(1956).—Photographic emulsions having av. grain radii (r) from 0.073 to 0.50 μ were exposed to beams of electrons having energies (E) from 20 to 90 keV. The measured S , which was defined earlier ($S = D \cdot q$), is tabulated with respect to r and E . For emulsions of low dispersity, S is directly proportional to the av. r . This indicates that photographic activity is possessed only by secondary electrons produced by primary electrons in a thin layer (l) next to the surface of the Ag halide grain. In highly disperse emulsions, the dependence of S on r is greater than linear owing to the fact that l is then comparable to the thickness of l . J. W. Lovelberg, Jr.

BOGOMOLOV, M.S.

Category : USSR/Optics - Scientific photography

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 2660

Author : Bogomolov, K.S., Dobroserdova, Ye.F., Zharkov, V.N.

Inst : Sci. Res. Inst. for Motion Picture Photography

Title : Quantitative Investigation of the Photographic Action of Electrons of Various Energies. II. Dependence of the Electron Sensitivity of the Photographic Emulsion on the Dimensions of the Emulsion Microcrystals.

Orig Pub : Zh. nauch. i prikl. fotografii i kinematogr., 1956, 1, No 2, 84-88

Abstract : An investigation was made of the sensitivity S to electrons with energies 20-90 kev of two series of emulsions of high sensitivity to particles: low-dispersed (average grain radius r in individual emulsions 0.8 -- 0.245 μ) with a AgHal concentration 40% by weight, and a high-dispersion (r 0.0151 - 0.073 μ) with AgHal concentration 93% by weight. The exposure was made in an electronmicroscope. After reducing the results to a single concentration, it was observed that S (density of blackening, referred to charge-density unit) is proportional to r for low-dispersion emulsions. This is interpreted as the presence of photographic effectiveness only in those secondary electrons that are produced under the influence of the primary particles in the thin

Card

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Quantitative investigations of the photographic effect of
 X-rays of various energies. III. Quantum yield of
 developed grains for soft x-rays. *Zhur. Nauch. i Priklad. Fot. i Kinetografiya*
 1, 241-9 (1953); cf. C.A. 60, 16486. In order to det. the
 quantum yield (Y) of developed grains in AgBr emulsions
 (I) for soft x-rays, I contg. 0.0931 g. AgBr per sq. cm. and
 having av. crystal radii (R) of 0.14-0.8 μ were exposed to
 the K α radiations of Cr, Co, and Cu for various times and
 developed, the resulting ds. were measured, and values of Y
 were calcd. Data are tabulated and graphed. Values of
 Y in grains made developable per absorbed quantum for I
 with R of 0.80, 0.45, and 0.14 μ , in that order, are 0.28,
 0.64, and 1.30 for 2.29 A. radiation, 0.20, 0.42, and 0.63
 for 1.79 A. radiation, and 0.31, 0.52, and 0.88 for 1.54 A.
 radiation. The av. thickness of the photographically ef-
 fective layer of the AgBr crystal is 780 A.

J. W. Lowenberg, Jr.

1009 am 0160, K.S.

Distr: 4E3d/4E4c

1 Density of tracks of charged particles in highly sensitive photographic emulsions. K. S. Rosenblum, Zhur. Nucl. Phys. 1971, Vol. 1, No. 1, p. 107.

14434. -- The density of tracks in various emulsions induced by charged particles emitted by a source of β were measured and compared with the values obtained from the theory. The values of the velocity in each track are in good agreement with the carrier (100 m/s). For a high speed of the Type R10 increased linearly from 1.0 to 3.7. For the same values of β the number of tracks increased linearly from 1.0 to 4.0. In the case of those of Ilford G5 (Fenta) and of those of NT-4 (Berrunsa) the values are 10% below the rated value.

Vsesoyuznyy nauchno-issledovatel'skiy kino-fotofizicheskii institut.

BOGOMOLOV, R.S.

BOGOMOLOV, K.S., kand.khim.nauk; KIRILLOV, N.I., doktor tekhn.nauk;
LEVKOYEV, I.I., kand.tekhn.nauk

International conference on scientific photography. Khim.nauka
i prom. 2 no.4:497-498 '57. (MIRA 10:11)
(Cologne--Photography)

BOGOMOLOV, K.S.

BOGOMOLOV, K.S.; MASLENNIKOVA, N.V.; RAZORENOVA, I.F.; ANOSOVA, N.V.;
ZHARKOV, V.B.

Determining the energy loss caused by ionizing radiation during the formation of silver of the latent image. Zhur.nauch.i prikl.fot.1 kin. 2 no.6:408-412 N-D '57. (MIRA 10:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut.
(Photography--Developing and developers)

BOGOMOLOV, K. S., RUDITSKAYA, I. A., SIROTINSKAYA, A. A. and DOBROSSERDOVA, E. P.
Sci. Res. Inst. Cinephotography

"Hypersensibilisation de emulsions Photographiques Nucleaires."

paper presented at the Second Intl. Colloquium on Corpuscular Photography.
Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3,114,647.

Konstantin S. BOGOMOLOV (Prof.)

BOGOMOLOV, K. S., RAZORENOVA, I. F., RUDITSKAYA, I. A. and SIROTINSKAYA, A. A.
Sci. Res. Inst. Cinephotography.

"Methodes d'accroissement de Sensibilite des Emulsions Nucleaires Irradiees
Aux Temperatures Bases."

paper presented at the Second Intl. Colloquium on Corpuscular Photography.
Montreal, 21 Aug - 7 Sep 1958.

Encl: B-3,114,647.

BOGOMOLOV, K.S.; RUDITSKAYA, I.A.; SIROTINSKAYA, A.A.

Hypersensitization of nuclear emulsions by the use of triethanolamine.
Zhur. nauch. i prikl. fot. i kin. 3 no.1:52-53 Ja-F '58.
(MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinstitut.
(Photographic emulsions)
(Ethanol)

BOGOMOLOV, K.S.

First international colloquy on corpuscular photography. Zhur.
nauch. i prikl. fot. i kin. 3 no.2:152-155 Mr-Apr '58. :(MIRA 11:5)
(Strassburg--Photography--Congresses)

SOV 77-3-4-23/23

AUTHOR: Chibisov, K.V.; Bogomolov, K.S.

TITLE: The State of Photographic Science and Industry in Japan (Sostoyaniye fotograficheskoy nauki i promyshlennosti v Yaponii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 4, pp 314-320 (USSR)

ABSTRACT: The authors review the various spheres of activity in theoretical photography and in the photographic industry in Japan. There are 2 photos and 3 tables.

1. Photography--Japan
2. Photography--Theory

Card 1/1

USCOMM-DC-55606

AUTHORS: Bogomolov, K.S.; Razorenova, I.F. SOV-77-3-5-1/21

TITLE: A Study of the Radiolysis of Silver Halide (Issledovaniye radioliza galoidnogo serebra)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 5, pp 321-322 (USSR)

ABSTRACT: Tests were made to determine the loss of energy by the ionizing particles in the radiolysis of silver halide. The effect of grain size, degree of maturation, and gold sensitization was studied. Emulsions were exposed to electrons with an energy of 61 kev, and the photographic silver was determined by potentiometric titration. The results, drawn up in tabular form, show that the loss of energy through electron action in the formation of one atom of silver depends on the maturation period of the emulsion and is not affected essentially by gold sensitization. When the emulsion is effected by light this dependence does not hold. The author concludes that the energy quantum of light is entirely absorbed by the emulsion. Secondary electrons, on the other hand, move in the emulsion structure and help to raise its thermal energy. In emulsions with very low maturation periods, not all the electrons are captured by the

Card 1/2

A Study of the Radiolysis of Silver Halide

SOV-77-3-5-1/21

sensitivity centers, and part of their energy goes to build up the semi-crystalline particles, thus completing the emulsion's structure.

There are 2 tables and 7 references, 1 of which is Soviet, 4 American, 1 Dutch and 1 German.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut
(All-Union Research Institute for Photography and Cinematography)

SUBMITTED: January 20, 1957

1. Photographic emulsions--Properties 2. Photographic emulsions
--Theory 3. Silver halides--Electrochemistry

Card 2/2

SOV-77-3-5-12/21

AUTHORS: Bogomolov, K.S.; Razorenova, I.F.; Ruditskaya, I.A.;
Sirotinskaya, A.A.

TITLE: The Sensitivity of Hypersensitized Nuclear Photographic
Emulsions at the Temperature of Liquid Hydrogen (Chuvst-
vitel'nost' gipersensibilizirovannykh yadernykh fotografi-
cheskikh emul'siy pri temperature zhidkogo vodoroda)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii,
1958, Vol 3, Nr 5, pp 380-381 (USSR)

ABSTRACT: Backingless "P" films with iodide, and others without iodide,
sensitized in a 3% solution of triethanolamine, were exposed
in liquid hydrogen to gamma-radiation at 250 mev or to a beam
of Pi-mesons at 300 mev. The results are drawn up in tabular
form. The trajectories of the relativistic particles, at
the temperature of liquid hydrogen, can be traced in the form
of very dense tracks on the hypersensitized, iodine-less "P"
silver bromide nuclear emulsions. A significant drop in the
sensitivity of the emulsions containing iodide at liquid
hydrogen temperature can be confirmed from the table. There
is 1 table and 2 Soviet references.

Card 1/2

SOV-77-3-5-12/21

The Sensitivity of Hypersensitized Nuclear Photographic Emulsions at the Temperature of Liquid Hydrogen

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut
(The All-Union Research Institute into Photography and Cinematography)

SUBMITTED: May 28, 1958

1. Photographic emulsions--Sensitivity 2. Photographic emulsions
--Applications 3. Gamma rays--Photoghemical effects 4. Hydrogen
(Liquid)--Applications

Card 2/2

AUTHOR: Bogomolov, K.S. SOV-77-3-5-17/21

TITLE: On the Mechanism of the Interaction of Charged Particles with Crystals (O mekhanizme vzaimodeystviya zaryazhennykh chastits s kristallami); On A.L. Kartuzhanskiy's Comments (Po povodu zamechaniy A.L. Kartuzhanskogo)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 5, pp 388-389 (USSR)

ABSTRACT: In his reply to A.L. Kartuzhanskiy's comments on his previous article on this subject, the author restates his own case on the energy losses in the formation of latent image silver atoms. In the ionization process, interaction of electrons with lattice defects occurs with loss of energy which, in an ideal lattice, would be used for the liberation of electrons of conductivity. Energy losses by charged particles are thus due to loss of energy by the electrons and not, as Kartuzhanskiy states, to loss of electrons. If **Kartuzhanskiy** were correct, increased energy losses would be observed when the crystals were acted upon by light - but this is not the case since only ionizing particles cause

Card 1/2

SOV-77-3-5-17/21

On the Mechanism of the Interaction of Charged Particles with Crystals

this phenomenon. Bogomolov points out some errors in Kartuzhanskiy's calculations, and attacks the basic assumption of these calculations that all electrons which do not form a center of development recombine with positive holes.

1. Photographic emulsions--Properties 2. Photographic emulsions
--Theory 3. Silver halides--Electrochemistry

Card 2/2

BOGOMOLOV, K.S., kand.khim.nauk

Photographic recording of nuclear radiations. Khim.nauk i prom.
3 no.5:623-628 '58. (MIRA 11:11)
(Photography, Particle track)

AUTHORS: Romanovskaya, K.M., Bogomolov, K.S. SOV/77-3-6-2/15

TITLE: An Investigation of the Dependence of the Regression on the Energy of the Particles Bringing About the Formation of the Latent Image (Issledovaniye zavisimosti regressii ot energii chastits vyzyvayushchikh obrazovaniye skrytogo izobrazheniya)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 6, pp 407-409 (USSR)

ABSTRACT: A method for the investigation of the dependence of regression on the energy of the particles that generate the formation of the latent image, was devised, to provide a possibility to accurately measure the tracks of feebly ionizing charged particles in the relatively wide interval of specific ionization for emulsions which are sensitive to relativistic particles. R-type pellicle stacks were irradiated with pi-mesons with an energy of 160 to 220 Mevs on the synchrocyclotron of the Ob'yedinennyy institut yadernykh issledovaniy (Joint Nuclear Research Institute). The tracks of scattered pi-mesons, which ended in the emulsion, were used for the measuring of the density. Two pellicle stacks were investigated, one of which was manufactured in line with

Card 1/3

SOV/77-3-6-2/15

An Investigation of the Dependence of the Regression on the Energy of the Particles Bringing About the Formation of the Latent Image

standard technology, while the other was studied for relatively strong regression. Each stack contained several dozens of emulsion layers of 400 micron thickness. The prepared stacks were put into an "exsiccator" for 7 to 24-hour periods with a saturated solution of natrium bromide at 20° C and a relative humidity of 58 %. Upon irradiation, a coordinate scheme was plotted by aid of x-ray radiation. After 12 to 14 hours 8 upper layers were taken out from the stack upon irradiation and processed in accordance with the NIKFI method with two-sided developing and ensuing fixing to a glass support. The different sets (each 8 layers) were processed and the density of the tracks calculated by determined distances from the points of the arresting of the mesons: 2.5, 4, 6 and so on up to 24 mm at 1-mm-distances. Energy and specific energy losses in the photographic layer of the mesons in their relation to the residual ranges are shown in Table 1, the results in Table 2 a and b. The tabulated figures, upon comparison, demonstrate that the regression depends only to a minor degree on the energy of the particles. This may be

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SOV/77-3-6-2/15

An Investigation of the Dependence of the Regression on the Energy of the Particles Bringing About the Formation of the Latent Image

explained by means of the fluctuation theory of the photographic effect of charged particles. Apparently only the number of microcrystals in which primary ionization occurs grows mainly with the increase of ionization within the indicated limits. Thus the dimensions of the centers of the latent image and, consequently, their stability depend little on the energy of the charged particles. There are 3 sets of tables and 3 references, 2 of which are Soviet and 1 Spanish.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (The All-Union Scientific Research Institute for Motion Pictures and Photography)

SUBMITTED: January 20, 1957

Card 3/3

20995

S/058/61/000/005/003/050
A001/A101

21.5200

AUTHORS:

Bogomolov, K.S., Ruditskaya, I.A., Razorenova, I.F., Sirotinskaya, A.A., Dobroserdova, Ye.P.

TITLE:

Hypersensitization of nuclear photoemulsions

PERIODICAL:

Referativnyy zhurnal. Fizika, no 5, 1961, 69-70, abstract 5B176
("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 5 - 18)

TEXT:

A number of theoretical and practical problems connected with the employment of triethanolamine for hypersensitization of nuclear emulsions are investigated. Optimum conditions are selected for dipping of plates of the P (R) type in triethanolamine; it is shown that some growth of fog can be easily eliminated by the subsequent underdevelopment. The high sensitivity attained drops noticeably in the storing process, and this restricts the employment of emulsions dipped in triethanolamine for lasting experiments, e.g. for studying cosmic rays. The treatment with triethanolamine after exposure yields no results. Other alkali solutions affect the sensitivity considerably less than triethanolamine at the same pH 9 as the latter. Introduction of triethanolamine prior to coating fogs conventional R-type emulsions; however, using undermatured emulsions one

Card1/2

20995

J

Hypersensitization of nuclear photoemulsions

S/058/61/000/005/003/050
A001/A101

can attain rather high sensitivity by introducing triethanolamine prior to coating, but in this case the quantity of triethanolamine needed is much greater than for dipping. The washing out of triethanolamine from the emulsion prior to exposure reduces sensitivity almost to the initial level. The employment of mono- and diethanolamines is less efficient than that of triethanolamine. To explain the effect of triethanolamine, the authors hold that it is necessary to ascribe to it, in addition to its inherent reducing and alkaline properties, the ability of transferring radiation energy, absorbed in gelatine, to emulsion crystals. To prove the existence of this ability, special experiments were carried out in which emulsions were exposed to ultraviolet rays through a gelatine film absorbing them completely.

A. Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

20996

S/058/61/000/005/004/050
A001/A101

21.5200
AUTHORS:

Bogomolov, K.S., Razorenova, I.F., Sirotinskaya, A.A.

TITLE:

Sensitivity of photoemulsions to action of charged particles at low temperatures

PERIODICAL:

Referativnyy zhurnal, Fizika, no 5, 1961, 70, abstract 5B177 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 19 - 25)

TEXT:

The authors investigated mechanism of sensitivity reduction of photoemulsions to ionizing particles at low temperatures. Experiments on exposing P (R) type emulsions to an 660-Mev proton beam at -186°C have shown that the final result in no way depends on the conditions of emulsion transition to room temperature after exposure. Residual sensitivity at this temperature does not depend on initial sensitivity (at room temperature) and conditions of emulsion maturing. The absence of ionic (dark) conductivity in emulsion crystals at liquid air temperature is insufficient for the explanation of all these facts, as well as the phenomenon of a further sensitivity drop at still lower temperatures. Therefore a presumption has been made that recombination of conductivity electrons, "frozen" in traps, with bromine ions plays a part in the phenomena

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20996

Sensitivity of photoemulsions ...

S/058/61/000/005/004/050
A001/A101

mentioned; this process manifests itself in the form of low-temperature fluorescence of AgBr. It has been found that intensity of the latter depends on the AgI content in the emulsion solid phase, and it is the highest at concentrations of AgI of the order of a few tenths per cent. If the assumption mentioned is true, iodine-free emulsions must possess greater sensitivity at low temperatures than conventional emulsions. This was confirmed by experiments, and such emulsions recorded minimum ionization particles not only at -186°C but also at -252°C (density of 17 grains/100 μ) when in conventional R-type emulsions tracks of relativistic particles were absent.

A. .Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

2097

S/058/61/000/005/005/050
A001/A101

21.5201

AUTHORS: Bogomolov, K.S., Razorenova, I.F., Ruditskaya, I.A., Sirotinskaya, A.A.

TITLE: Raising sensitivity of nuclear photoemulsions at low temperatures as a result of hypersensitization

PERIODICAL: Referativnyy zhurnal. Fizika, no 5, 1961, 70, abstract 5B178 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no 32, 26 - 28) X

TEXT: Degree of sensitivity to minimum ionization particles preserved at temperatures -186 and -252°C was investigated in the following types of R emulsions: conventional (I), hypersensitized by triethanolamine (II), special iodine-free emulsion prior to hypersensitization (III) and the same after hypersensitization (IV). The degree of sensitivity preservation at -186°C proved to be $\sim 70\%$ in (I), $\sim 50\%$ in (II), $\sim 70\%$ in (III); the density of tracks was $\sim 20-25$ in (I) and (III) and $40-50$ grains/ 100μ in (II). At -252°C sensitivity is completely absent in (I); in (II) it preserved by $\sim 40\%$, in (III) by $\sim 70\%$, and in (IV) by

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20997

Raising sensitivity of nuclear photoemulsions ...

S/058/61/000/005/005/050
A001/A001

~80%; the track density amounted to ~25 - 30 in (II), ~20-25 in (III) and to ~50 (in one case 76) grains/100 μ in (IV). Fog amounted to 1.4 in (I) and (III) and 2.5 grains/100 μ in (II) and (IV).

A. Kartuzhanskiy

[Abstracter's note: Complete translation.]

Card 2/2

24,6830(1191,1395)
6,7500(1007,1524)

23347 S/058/61/000/006/027/063
A001/A101

AUTHORS: Yegorova, M.S., Bogomolov, K.S.

TITLE: An investigation of quantitative characteristics of the image of an object made with photographic layers of variable thickness

PERIODICAL: Referativnyy zhurnal. Fizika, no. 6, 1961, 208, abstract 60220 ("Tr. Vses. n.-1. kinofotoin-ta", 1959, no. 32, 63 - 67)

TEXT: The authors studied blurring of contact radioautographic images of thin (20-100 μ) β -radioactive emitters W^{185} (activated wires) as a function of the thickness of emulsion film of MP (MR)-plates (thickness varied from 7 to 40 μ in one experiment and from 8 to 53 in the other one). After a transverse micro-photometering of blackening, the area of the radiogram was divided by a horizontal line in two equal parts, and the length of this secant within the radiogram was adopted as the width of the image. Then the coefficient of image blurring K was determined as the ratio of widths of the image and the object. It was found out that there was no any essential dependence of K on the layer thickness and density of image blackening. This pertains also to the coefficient characterizing the

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An investigation ...

23341 S/058/61/000/006/027/063
A001/A101

exponential fall-off of blackening density at the edges of the image. The K-value did also not depend on the layer thickness and light intensity when images of similar thin objects (dash lines) were obtained in a light beam.

A. Kartuzhanskiy

[Abstracter's note: Complete translation]

Card 2/2

S/058/61/000/007/002/086
A001/A101

AUTHORS: Bogomolov, K.S., Stefanov, S.B.

TITLE: The use of nuclear emulsions in electronic microscopy

PERIODICAL: Referativnyy zhurnal. Fizika, no. 7, 1961, 12, abstract 7A164 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no. 32, 68 - 72)

TEXT: MK-type microradiographical photoplates are recommended for photographing electron-microscopic images with low magnification, if a considerable subsequent magnification is required. The resolving capacity of these plates (320 l/mm) excels about 4.5 times that of electronographical plates (70 l/mm) usually used in electronic microscopy. No additional distortions of the image, due to scattering of electrons in the photoemulsion, arise, since the size of the circle of electron scattering in the emulsion thin layer does not exceed dimensions of its grains. If a high sensitivity of photomaterials is required, photoplates of M ρ (MR)-type are recommended. ✓

I. Stoyanova

[Abstracter's note: Complete translation]

Card 1/1

23340 S/058/61/000/006/026/063
A001/A101

24.6700 (1191, 1538, 1559)

AUTHORS: Bogomolov, K.S., Romanovskaya, K.M.

TITLE: Regression of the latent image of tracks of weakly ionizing particles

PERIODICAL: Referativnyy zhurnal. Fizika, no. 6, 1961, 206, abstract 6G208 ("Tr. Vses. n.-i. kinofotoin-ta", 1959, no. 32, 73 - 77)

TEXT: Quantitative regularities of regression of tracks of relativistic particles (π -mesons with energies of 180 and 220 Mev) were investigated on two emulsion cameras of P (R) type with a normal and high regression; sections corresponding to different values of specific ionization (from 1.02 to 4.64 times of minimum ionization) were used. A comparatively weak dependence of regression degree on ionization was detected; this, in the authors' opinion, follows from the so-called "fluctuation theory" (RZhFiz, 1957, no. 9, 24346) and is in agreement with calculations performed by the formulae of this theory.

A. Kartuzhanskiy

[Abstracter's note: Complete translation]

Card 1/1

SOV/77-4-1-5/22

AUTHORS: Bogomolov, K.S., and Romanovskaya, K.M.

TITLE: The Theoretical Foundation of the Regression Dependence of the Latent Image on the Energy of Weak Ionizing Nuclear Particles Acting Upon a Photographic Emulsion (Teoreticheskoye obosnovaniye zavisimosti regressii skrytogo izobrazheniya ot energii slaboionizuyushchikh yadernykh chastits, deystvuyushchikh na fotograficheskuyu emul'siyu)

PERIODICAL: Zhurnal nauchny i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 1, pp 35-37 (USSR)

ABSTRACT: An experimental investigation of the regression of the traces of π -mesons in the ionization interval 1.02 and 4.64 - as compared with the relativistic minimum - showed that the grade of regression decreases, but very slightly, with the increase of ionization. The fluctuation theory of the photographic action of charged particles explains this phenomenon qualitatively and quantitatively.

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SOV/77-4-1-5/22

The Theoretical Foundation of the Regression Dependence of the Latent Image on the Energy of Weak Ionizing Nuclear Particles Acting Upon a Photographic Emulsion

It is understood that the large centers of development regress considerably slower than the fine ones. Calculation results agree satisfactorily with the experimental data (Table 1). Thus, the phenomenon under investigation may be explained by the laws of distribution of photographically effective acts of primary ionization. There is 1 table and 4 Soviet references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI) (The All-Union Scientific Research Institute for Motion Pictures and Photography - NIKFI)

SUBMITTED: January 20, 1957

Card 2/2

CHIBISOV, K.V.; BOGOMOLOV, K.S., kand. khim. nauk

Fourth symposium on photographic sensitivity. Vest. AN SSSR 28
no. 6:95-96 Ja '58. (MIRA 11:7)

1. Chlen-korrespondent AN SSSR(for Chibisov).
(Tokyo--Photographic emulsions--Congresses)

23(4) ; 23(5)

SOV/77-4-2-16/18

AUTHOR: Bogomolov, K.S.

TITLE: An International Colloquy on Nuclear Photography (Mezh-dunarodnyy kollokvium po yadernoy fotografii)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 2, pp 152-157 (USSR)

ABSTRACT: This is an account of the 2nd International Colloquy on Nuclear Photography held in Montreal (Canada) on August 25-29 1958, attended by 85 members from 18 countries, at which 86 reports were submitted. The reports of the Soviet delegation during the discussion of the improvement of photographic emulsions aroused great interest. They were devoted to questions connected with the hypersensitization of nuclear photographic materials (Bogomolov, Ruditskaya etc.: Zhdanov, Kartuzhanskiy etc.: Perfilov, Prokof'yeva etc.: Bogomolov, Razorenova etc.). Type R (NIKFI) photographic layers,

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SOV/77-4-2-16/18

An International Colloquy on Nuclear Photography

raised by hypersensitization to a density number of 100 grains to 100 μ in a trace of a relativistic particle, were demonstrated under a microscope. Perfilov achieved the highest sensitivity for an emulsion with 60 grains to 100 μ by sensitization with gold and then hypersensitization with triethanolamine. Uvarova and Myl'tseva gave a report on methods of improving the physico-mechanical properties and stability of photo-emulsion layers for nuclear experiments. Markocki (Poland), referring to the works of Bogomolov, Sirotinskaya etc., Uvarova and colleagues, published in the Works of NIKFI Nr 11 (21), "Nuclear Emulsions", noted the superiority of the method of preparing nuclear emulsions by using strong dilutions in the first maturing and deposition of the hard phase. Markocki used electrolytes for the salting out process in the deposition of the hard phase, and a spirit coagulation

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SOV/77-4-2-16/18

An International Colloquy on Nuclear Photography

after the first maturing. Kubal (Czechoslovakia) submitted an investigation into the effect of cadmium bromide in the first maturing, and recommended the use of dimethylaminostyrylbenzothiazole for sensitizing 2-R nuclear emulsions. Investigations into the mechanics of sensitization of nuclear emulsions were submitted by Simon (France) and Protas, Krakau and Sidorenkova (USSR). The mechanics of the effect of triethanolamine were examined in the two Soviet works mentioned above. In the Zhdanov laboratory (RIAN) it was shown that the effect of triethanolamine was conditioned by a favorable combination of alkalinity and reducing power. In the work of Bogomolov and his colleagues (NIKFI) it was also shown that when hypersensitization by triethanolamine is carried out with the action of the charged particles in the photo-process, part of the energy expended by the particles

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SOV/77-4-2-16/18

An International Colloquy on Nuclear Photography

in the gelatin is also used. Biberman and Fomin submitted a summary of investigations by authors, devoted to deviations from the law of interactivity by electrons of average energies. Hauser (GDR) stated in his report that the cold stage of development causes a decline in development according to the depth of the layer. Therefore the processes taking place in warm stage should be based on the principle of compensating for this irregularity. Uvarova, Krestovnikova, Myl'tseva and Romanovskaya described in their report the methods and results of processing NIKFI photographic layers. A report submitted by Belovitskiy, Korablev, Sukhov and Shtranikh described a device they had produced for counting the grains and determining multiple dispersion in the emulsions. Varfolomeyev gave a report on the work "Ionization of high-energy electron-positron pairs", which included a description of some of the properties of the

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SOV/77-4-2-16/18

An International Colloquy on Nuclear Photography

NIKFI R emulsion. Bogomolov, Deberdeyev, Sirotinskaya and Uvarova gave a report on photographic materials for autoradiography which started a discussion on the question of using nuclear photographic emulsions in electronic microscopy. This new method of Bogomolov and Stefanov was highly praised by Professor Schopper (FRG). Among the trends appearing as a result of the colloquy was one of increased development and use of very fine-grain emulsions (Canada, USSR, England). The author finally notes the great interest shown in the Soviet contributions, especially those on the hypersensitization of type R emulsions, fine-grain emulsions, investigation of the physico-mechanical properties of photographic layers and autoradiography.

Card 5/5

23(3,5)
AUTHOR:

SOV/77-4-4-11/19

Bogomolov, K.S.

TITLE: Letter to the Editor; On Limited Sensitivity of
Photographic Emulsion for Ionizing Corpuscles

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1959, Vol 4, Nr 4, pp 299-300 (USSR)

ABSTRACT: The author presents some references which have the calculation of the energy of ionizing corpuscles and the sensitivity of photographic emulsions for these corpuscles. The results show, that the presence of N-electrons of Br, which was not taken into account before, has some influence on the density of traces of corpuscles only at especially high values of true sensitivity. There are 1 graph and 3 references, 2 of which are Soviet and 1 French.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI) (All-Union Scientific Research Institute for Motion Picture and Photography)

SUBMITTED: February 4, 1959
Card 1/1

ANTONOV, S.M.; BOGOMOLOV, K.S.; KIRILLOV, N.I.; OVECHKIS, N.S.; USPENSKIY,
V.I.

Photographic processes used in taking the first pictures of the
moon's far side. Isk.sput.Zem. no.9:20-29 '61. (MIRA 14:11)
(Astronomical photography) (Moon--Photographs, charts, etc.)
(Lunar probes)

S/077/60/005/003/001/009
E032/E414AUTHOR: Bogomolov, K.S.TITLE: Fluctuations in the Density of Charged Particle Tracks 19
in Nuclear Emulsions 20PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i
kinematografii, 1960, Vol.5, No.3, pp.168-172

TEXT: The author has investigated fluctuations in charged particle track densities in order to establish whether these fluctuations are due to fluctuations in the properties of the emulsion, fluctuations in the ionization, or whether they can simply be reduced to the mathematics of random quantities. The results reported in the literature (Jauneau and Hughes-Bousset (Ref.1), Hodgson (Ref.2) and Coates (Ref.3)) appear to be contradictory. Thus, for example, Jauneau and Hughes-Bousset found that the fluctuation in the track density σ corresponds to a gaussian distribution and is therefore equal to the square root of the mean number of grains. Hodgson reported that $\sigma = 0.75\sqrt{n}$, while Coates, who was concerned with short sections of tracks (3.3μ), deduced a binomial distribution. The present author has investigated a large number of tracks and concludes that for the

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S/077/60/005/003/001/009
E032/E414

Fluctuations in the Density of Charged Particle Tracks in Nuclear Emulsions

hypersensitive nuclear emulsion of type R, the fluctuations can be described by a binomial distribution. Thus, for example, Fig. 2 shows the calculated (continuous line; binomial distribution) and experimental (dotted line) histograms of the distribution of the number of grains in six hundred 3.6μ sections of tracks of relativistic particles in the hypersensitive emulsion of type R. The agreement between the experimental "curve" and the binomial distribution is seen to be good. The grain distribution can therefore be described by the binomial distribution

$$P(n) = C_{n_0}^n \left(\frac{\bar{n}}{n_0} \right)^n \left(1 - \frac{\bar{n}}{n_0} \right)^{n_0-n} \quad (2)$$

with the following parameters:

$$n_0 = 9.2, \quad \bar{n} = 3.6, \quad \varphi = n/n_0 = 0.39.$$

[The emulsion referred to as "type R" is probably the
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S/077/60/005/003/001/009
E032/E414

Fluctuations in the Density of Charged Particle Tracks in Nuclear Emulsions

NIKFI-R emulsion]. There are 2 figures and 8 references: 4 Soviet, 3 English and 1 French.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI) (All-Union Scientific Research Institute for Cine-Photography (NIKFI))

SUBMITTED: May 28, 1958



Card 3/3

S/077/60/005/004/002/002
E032/E214

AUTHORS: Fomina, I. A. and Bogomolov, K. S.
TITLE: Equivalence of Time and Electron Beam Intensity in
the Irradiation of Photographic Plates of Types
MK(MK) and MP(MR)
PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i
kinematografii, 1960, Vol. 5, No. 4, pp. 293-294

TEXT: The figure shows the photographic density as a function of electron beam intensity at constant charge density ($2 \times 10^{-12} \text{c/cm}^2$) for MK (Curve 1), MR (Curve 2), and spectral Type 1 (Curve 3) emulsions. The electron energy was 60 kev. As can be seen the reciprocity law holds for the MK and MR emulsions and hence these plates can be used on quantitative work with electron beams. The emulsions are issued by NIKFI and have a high resolving power. The latter is due to small dimensions of microcrystal and small intervals between them. Nevertheless, the emulsions have a high sensitivity. They were described by the second of the present authors et al in Refs. 4 and 5. There are 1 figure and 6 Soviet references.

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S/077/60/005/004/002/002
E032/E214

Equivalence of Time and Electron Beam Intensity in the Irradiation
of Photographic Plates of Types MK (MK) and M^P (MR)

ASSOCIATION: Moskovskiy energeticheskiy institut (MEI) i ✓
Vsesoyuznyy nauchno-issledovatel'skiy kino-fotoinst-
itut (NIKFI)
(Moscow Power Institute (MEI) and All-Union Scientific
Research Motion Picture and Photographic Institute
(NIKFI))

SUBMITTED: January 20, 1960

Fig.

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BOGOMOLOV, K.S.

Mechanism of the sensitivity of photographic emulsions to light
and ionizing radiations. Zhur.nauch.i prikl.fot i kin. 5 no.5:
376-379 S-O '60. (MIRA 13:12)

(Photographic emulsions)

5105/16/000/000/00/001
NO 1/801

AUTHORS: Fomin, I. A., Bogomolov, K. S.

TITLE: Application of Modern Photographic Materials for Photographic in the Electron Microscope

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. xi, No. 9.
pp. 1015-1018

TEXT: New photomark films of the type MK MK and MP MK have been developed (Table, properties) in the Radiographic Laboratory of the NIKFI (Naukoobrazovatel'skiy Kirovskiy Institut - Scientific Research Institute of Motion Picture Photography) for microautoradiography and electron microscopy. The emulsions of these films are fine-grained with a high silver halide concentration so that they are sensitive to electrons and a high resolution. Since, however, electron scattering in these films is great, the NIKFI recommends a special method of developing these films; only a comparatively thin surface layer of the emulsion is developed, in which electron scattering does not yet influence the resolution. An EM-100 (EM-100) electron microscope correspondingly adapted was used as sensitiv-
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Application of Modern Photographic Materials
for Photographing in the Electron Microscope

S/032/60/026/008/007/001
B015/B064

meter, and the sensitivity curves recorded at electron energies of 32, 40, 60, and 80 kev according to a method already described (Refs. 6, 7). To be able to check the validity of the law of interchangeability, the intensity of the electron beam was changed in the range of from $0.81 \cdot 10^{-13}$ a/cm² to $61 \cdot 10^{-13}$ a/cm² and measured with the help of a direct-current amplifier with an EM-3 (EM-3) valve designed by K. I. Rozgachev. Besides the above-mentioned films also electron diffraction films of the type III and spectral films of the type I were investigated under the same conditions, and the blackening was measured with an MΦ-2 (MF-2) microphotometer, and the blackening curves of the films examined were drawn. The maximum sensitivity of MK and MR films is found at electron energies of 45 and 60 kev, respectively, whereas the maximum sensitivity of films of the type III is above 80 kev (Fig. 1). In MK and MR films, no deviation from the law of interchangeability is observed as occurs in films of the type I (Fig. 2). There are 2 figures, 1 table, and 8 Soviet references.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Institute of Power Engineering), Natsionalno-issledovatel'skiy tsentr
instituta (Scientific Research Institute of Nuclear Power and
Photography)

Card 2/2

Bogomolov, K.S.

S/560/61/000/009/001b/009

AUTHORS: Antonov, S. M., K. S. Bogomolov, N. I. Kirillov, N. S. Ovechkis, and B. I. Uspenskiy

TITLE: Photographic processes applied in the first photography of the far side of the moon

PERIODICAL: Akademiya nauk SSSR. Iskusstvennyye sputniki Zemli, no. 9, 1961, 20-29

TEXT: Both ground and onboard photographic processes were used to obtain the first images of the far side of the moon. The main task lay in bringing out to the maximum degree the details of the objects surveyed. The numerical value of the contrast coefficient of the onboard negative was close to 1; for the ground negative it was of the order of 0.7. The dosage of relativistic particles on the flight to the moon was of the order of 10^7 particles/cm². Theoretical computations and experiments show that the density of film darkening caused

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Photographic processes applied...

S/560/61/000/009/001b/009

by the particles was ~ 0.04 to 0.06; the film fogging was 0.13 to 0.14. The basic requirements for the onboard photographic process were simplicity, stability, full automation, and reliability. Small-grain, heat-resistant film of average sensitivity and high resolving power, based on silver halide photoemulsions, was most suitable. A single-dish developing process, in which the film is developed and fixed simultaneously, was chosen. To preserve the necessary sensitometric indices, a viscous developing—fixing solution was used. The developing component was a new, energetic substance with high superadditive properties, while the fixing component possessed high buffering quality and a high content of the single-dish process indicates that temperature oscillations from 30 to 50° have little effect on the characteristics of the curves. Thermostatic tests of the solution showed good conservation at $t = 20-40^\circ$ for 15 days, i. e., 2.5 times the duration of the flight. Further processing of the film consisted in a short water wash and drying on a hot drum. All necessary sensitometric, physico-chemical, and mechanical tests were made on a special model of the equipment

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Photographic processes applied...

S/560/61/000/009/001b/009

for film processing. The ground-station process consisted in the recording of the image, in the form of radio signals sent from the station, on photographic film and subjecting the film to chemical processing. Low-concentrating, slow-operating leveling developers were specially made. The development of test negatives made it possible to establish processing regimes. Sets of positives and double negatives, obtained from each frame, served as initial material in investigating the first images of the far side. Samples of the prints obtained are given.

Card 3/3

BOGOMOLOV, K.S.

Third International Conference on Nuclear Photography, held in
Moscow from July 11th to July 16th, 1960. Zhur. nauch. i prikl.
fot. i kin. 6 no.1:75-77 Jaⁿ'61. (MIRA 14:3)
(Photography, Particle track—Congresses)

BOGOMOLOV, K.S.

Nature of the latent image produced by the action of light and charged particles. Zhur.nauch.i prikl. fot. i kin. 6 no.2:149-154 Mr-Ap
'61. (MIRA 14:4)

(Photographic emulsions)

S/032/61/027/009/004/019
B117/B101

AUTHORS: Bogomolov, K. S., Zubenko, V. V., Kondakhchan, A. O., and
Umanskiy, M. M.

TITLE: Comparison characteristics of new X-ray films

PERIODICAL: Zavodskaya laboratoriya, v. 27, no. 9, 1961, 1117-1122

TEXT: The photochemical industry of the USSR recently started the production of new X-ray films with different photographic properties. (The new X-ray films were elaborated at the Shostkinskiy khimzavod (Shostka Chemical Plant) by A. O. Kondakhchan, S. A. Verkhovets, V. V. Vasil'yev, L. A. Khomich, Z. I. Pavlenko, and tests were conducted by I. I. Shal'nov and N. P. Blok. At the Kazanskiy zavod (Kazan' Plant), the films were elaborated by I. A. Novik, and B. B. Tsyrlina, and the tests were conducted by G. V. Derstuganov). The object of the present study was to determine the main characteristics of the new films, including sensitometric characteristics of the visible light, white X radiation at 80 kv tube voltage and soft monochromatic radiation of different wavelengths. Most of the methods of determining the characteristics mentioned are generally

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S/032/61/027/009/004/019
B117/B101

Comparison characteristics of ...

known. Only the method of determining the sensitometric characteristics with soft X radiation is described. The monochromatic radiation was obtained by the reflection from the monochromator crystal. Quartz (reflecting face 101), silicon (111) and, in some cases, LiF (100) were used. A narrow spectral range corresponding to the maximum of white radiation at 40 kv tube voltage was isolated for radiation with a wavelength of $\lambda = 0.45 \text{ \AA}$. The radiation intensity was kept constant by stabilizing the voltage of the entire installation and the anodic current of the tube. This was controlled by counting the impulses with a Geiger counter placed directly behind the film. To find the characteristic curve, a series of markings with different exposure times was obtained on the film. The temperature of the developer was kept constant at $18 \pm 0.5^\circ\text{C}$. Developing time was 8 min according to recommendations by manufacturers. A standard developer for X-ray film, and a developer of the zavod "Chistyie soli" (Plant "Chistyie soli") were used. The developed films were photometrically investigated on a microphotometer of the MF-4 (MF-4) type. On the basis of data obtained, characteristic curves $D = f(\log E)$ were plotted, where D = density of the blackening, and E = exposure. The relative film sensitivity $S_d=0.85$ and $S_g=1.0$, constant γ and the background density D_b were determined from the characteristic curve.

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Comparison characteristics of ...

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B117/B101

The sensitivity for monochromatic X radiation was determined in a similar way in combination with an UFDM intensifying screen. The investigations showed that the relative sensitivity of different films depended on the wavelength. The difference in sensitivity of films is reduced as the wavelength increases. The same is observed when using intensifying screens. The intensification coefficient of the screen increases with increasing light sensitivity of films. The new types of X-ray films can be used for X-ray structural, X-ray spectrum analyses, material tests (defectoscopy), etc. The main characteristics of the X-ray films investigated are listed in Table 1, the sensitivity of some X-ray films for monochromatic X radiation of different wavelengths in Table 2, and the sensitivity when using intensifying screens in Table 3. There are 6 tables, and 1 non-Soviet reference. ✓

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)
Nauchno-issledovatel'skiy kinofotoinstitut (Scientific Research Institute of Motion Picture Photography)

Card 3/8

BOGOMOLOV, K.S., red.; PERFILOV, N.A., red.; BELOVITSKIY, G.Ye., red.;
DOEROSERDOVA, Ye.P., red.; ZHDANOV, G.B., red.; KARTUZHANSKIY,
A.L., red.; LYUBOMILOV, S.I., red.; MINERVINA, Z.V., red.;
RAZORENOVA, I.F., red.; ROMANOVSKAYA, K.M., red.; SAMOYLOVICH,
D.M., red.; STARININ, K.V., red.; TRET'YAKOVA, M.I., red.;
UVAROVA, V.M., red.; SHUR, L.I., red.; POPOVA, A.K., red.; VEPRIK,
Ya.M., red.; VERES, L.F., red. izd-va; KUZNETSOVA, Ye.B., red. izd-
va; POLYAKOVA, T.V., tekhn. red.

[Nuclear photography; transactions] IAdernaia fotografiia; trudy
tret'ego Mezhdunarodnogo soveshchaniia. Moskva, Izd-vo Akad. nauk
SSSR, 1962. 474 p. (MIRA 15:6)

1. Colloque International de Photographie Corpusculaire. 3d,
Moscow, 1960. 2. Nauchno-issledovatel'skiy kinofotoinstitut,
Moskva (for Bogomolov, Uvarova, Romanovskaya, Starinin). 3. Pred-
sedatel' Organizatsionnogo komiteta Tret'yego Mezhdunarodnogo sove-
shchaniya po yadernoy fotografii. 1960, Moskva (for Bogomolov).
4. Zamestitel' predsedatelya Organizatsionnogo komiteta Tre'yego
Mezhdunarodnogo soveshchaniya po yadernoy fotografii. 1960, Moskva
(for Perfilov). 5. Radiyevyy institut im. V.G.Khlopina Akademii
nauk, Leningrad (for Shur, Perfilov). 6. Institut sovetskoy trgovli
im. F.Engel'sa (for Kartuzhanskiy). 7. Ob"yedinennyy institut yader-
nykh issledovaniy, Dubna (for Lyubomilov). 8. Institut atomnoy
energii im. I.V.Kurchatova Akademii nauk SSSR, Moskva (for
Samoylovich).

(Photography, Particle track)

BOGOMOLOV, K. S. , and ROMANOVSKAYA, K. M.

"The effect of moisture on the stability of the photographic properties of emulsions type R NIFKI"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West Germany, 3-8 Sep 62

BOGOMOLOV, K. S., DEBERDEYEV (fnu), and SIROTINSKAYA, A. A.

"A photoemulsion for nuclear research, Type M NIFKI"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West
Germany, 3-8 Sep 62

BOGOMOLOV, Konstantin S.

"Interaction between charged particles and bonded silver and bromite electrons
in photo emulsion"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West
Germany, 3-8 Sep 62

S/811/62/000/000/001/003

AUTHOR: Bogomolov, K. S.

TITLE: Quantitative laws of primary ionization and the photographic process in nuclear emulsions.

SOURCE: Yadernaya fotografiya; Trudy Tret'yego Mezhdunarodnogo soveshchaniya po yadernoy fotografii, Moskva, iyul' 1960g. K. S. Bogomolov and N. A. Perfilov, eds. Moscow. Izd-vo AN SSSR, 1962, 40-52.

TEXT: This theoretical study and its correlation with experimental data is intended to refine the author's earlier fluctuation theory concerning the dependence of the density of the traces of charged particles in a nuclear emulsion on the primary-ionization events in the microcrystals (MC) of the emulsion; this is accomplished by taking into account the nonuniformity of the dimensions and the proper sensitivity of the emulsion MCs, the fluctuations of the intersection of the MCs by charged particles, and (to some degree) the distribution of the energy of interaction of the particles with the haloid silver. The theory is regarded as a refinement of the modern concept of the trace formation by a charged particle as a typical stochastic process based on the discrete nature of the primary ionization (cf. Le Gentil, M., Morand, M., C. r. Acad. sci., v. 247, 1958, 741; Barkas, W. H., Emulsion statistics, Univ. Calif. Rad. Lab. Note, UCRL-8687, 1959) with the following fully
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Quantitative laws of primary ionization ...

S/111/62/000/000/001/003

consistent additional development: (1) The concept of a photographically-effective primary ionization event is refined on the premise of the actual nature of the AgBr as an ionizing medium; the role of interactions with relatively great and small energy is examined in greater detail, especially for emulsions with nonuniform sensitivity; (2) the problem is solved in a second approximation, i.e., with a more rigorous averaging procedure than that previously based on a Poisson distribution. The determination of the frequency of effective primary ionization events was based on statistical data on the grain density in the traces of relativistic particles obtained on НЗКФМ (NIKFI) P- (R-)type emulsions in 1956-57; densities of 40 grains or more per 100 μ and betatron electrons with an energy of 12-13 mev were included; comparison data of the R-type emulsion with the Ilford G-5 emulsion are tabulated. A general expression for the averaged value of the relative density of grains in a trace as a function of the length of the chord along which a particle intersects an emulsion MC is derived, and specific expressions are written for highly sensitive (but not hypersensitized) emulsions, in which all MCs are capable of forming a sensitization center as a result of a single primary-ionization event in the active surficial layer, and for emulsions with a variable degree of maturation, i.e., emulsions with varying sensitivity that are characterized by varying values of the number v of primary-ionization events at which an emulsion MC becomes capable of sensitization. A comparison of the results of calculations of the relative number of

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sensitized grains in the first and second approximation shows that the differences are not very substantial. In the investigation of the dependence of the density of particle traces on the ionization, with due consideration of the nonuniformity of the sensitivity of the emulsion MCs, it is assumed that ordinary photoemulsions (non-hypersensitized R-type, Ilford G-5) contain two sensitivity classes of MCs, one of which has a "critical sensitivity" at which $\nu = 1$. A more refined expression is obtained therefrom for the density of the particle traces. Consideration of the total deceleration of the particle in the emulsion layer, in a second approximation, yields the physical conclusion that when a particle has a relatively long run in the effective part of a MC, the probability of the occurrence in the given MC of a large number of primary-ionization events, as compared to the critical number sufficient for the formation of a sensitization center, is increased. The following corrections were newly introduced into the comparison between present quantitative theory and experimental data obtained with the R-type emulsions and Ilford G-5 and Kodak NT-4 emulsions: (a) New data on the emulsion density and the haloid-silver concentration were employed for the R-type emulsion (Rodicheva, M. F., *Zh. nauchn. i prikl. fotogr. i kinematogr.*, v. 3, 1958, 286) and the Ilford G-5 emulsion (Swinerton, A. J., Waller, C., *Sci. et inds. fotogr.*, v. 28, 1957, 481); (b) the energies of the electrons and mesons were determined from their residual ranges with the aid of the Barkas-Demers tables; (c) the ionization was calculated by the recently developed methods of R. M. Sternheimer (*Phys. Rev.*, v. 88, 1952, 851) and B. Stiller and

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Quantitative laws of primary ionization ...

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M. M. Shapiro (Phys. Rev., v. 92, 1953, 735). Separate comparisons were made for high-sensitivity emulsions (as afore-defined) and low-sensitivity emulsions (about 20 grains per 100 μ with electron energies of 12-13 mev). Good agreement with theory was found for the Ilford G-5 and Kodak NT-4 emulsions; the experimental data for the G-5 were taken from Fowler, P. H., Phil. Mag., v. 41, 1950, 169, those for the NT-4 from Brown, R., et al., Nature, v. 163, 1949, 82. The author's earlier findings (Zh. nauchn. i prikl. fotogr. i kinematogr., v. 1, 1956, 401; *ibid.*, v. 2, 1957, 161; Colloque Internat'l de Photogr. Corpusc., Strasbourg, CNRS, Paris, 1958, 213) have been improved by applying the Barkas corrections for the effective dimension of the MCs; the values of the relative ionization were also corrected. The results of a comparison for the experimental and theoretical values of the relative yield of sensitized grains for electrons with a 90-kev energy are tabulated. As a whole, the refinements thus introduced have not significantly changed the quantitative parameters of the author's previously expounded fluctuation theory, but the investigation has demonstrated the distinctly stochastic character of the process of the formation of traces of weakly-ionized particles in nuclear emulsions. There are 8 figures, 2 tables, and 14 references (8 Soviet, of which 1 is in French, 5 English-language, and 1 French-language).

ASSOCIATION: Nauchno-issledovatel'skiy kinofotoinstitut (Scientific Research Institute for Photography and Cinematography), Moscow.

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BOGOMOLOV, K.

Introduce a new signal. Rech. transp. 21 no.9:51 S '62.
(MIRA 15:9)

1. Kapitan teplokhoda "Bukhara".
(Inland navigation)

L 18372-63 EWT(1)/BDS/EED(b)-3 AFFTC/ASD/APGC/LJP(C)
ACCESSION NR: AP3003610 S/0077/63/008/004/0311/0312

AUTHORS: Bogomolov, K. S.; Fomina, I. A. 20 59 57

TITLE: Temperature dependence of the sensitivity of photographic emulsions to electrons

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 8, no. 4, 1963, 311-312

TOPIC TAGS: ripening of photographic emulsion, sensitivity to electron, temperature relationship, density of tone, ionic conductivity

ABSTRACT: Photographic plates with emulsions of various degrees of ripening (from 0 to 120 minutes) were subjected to electron action of 60 Kev-barn for 3 seconds at temperatures varying from -20 to +20C. The density of the resulting color was recorded. It was found that the sensitivity of emulsions with a normal ripening period of 90 to 120 minutes decreases with the temperature, while emulsions of low ripening state (from 0 to 15 min) responded in the opposite way. The sensitivity of emulsions of medium ripening (45 min) remained unaffected by the temperature range. The observed phenomena are linked to fluctuation in ionic

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L 18372-63

ACCESSION NR: AP3003610

conductivity with the age of the emulsion. Orig. art. has: 1 chart. 2

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI)
i Moskovskiy energeticheskiy institut (MEI) (All-Union Scientific Research Cinema-
Photo-Institute and Moscow Institute of Energetics)

SUBMITTED: 11Feb63

DATE ACQ: 02Aug63

ENCL: 00

SUB CODE: OH, MA

NO REF SOV: 002

OTHER: 000

Card 2/2

BOGOMOLOV, K.S.

Fourth International Colloquium on Nuclear Photography. Zhur.
nauch. i prikl. fiz. i kin. 8 no.4:313-317 JI-Ag '63.

(MIRA 16:7)

(Photography, Particle trace—Congresses)

ROMANOVSKAYA, K.M.; BOGOMOLOV, K.S.

Effect of the moisture of the photographic layer on the stability of the photographic properties of type R emulsions developed by the Scientific Research Institute of Motion Pictures and Photography. Zhur. nauch. i prikl. fot. i kin. 9 no.1:6-11 Ja-F '64. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

ROMANOVSKAYA, K.M.; BOGOMOLOV, K.S.

Effect of the duration of the ripening period on the regression properties of hypersensitive nuclear emulsions. Zhur. nauch. i prikl. fot. i kin. 9 no.1:53-55 Ja-F '64. (MIRA 17:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI).

BOGOMOLOV, K.S.; GRUZ, E.A.

Anomalous positive effect of preliminary irradiation. Part 2.
Anomalous action of the backing radiation. Zhur. nauch. i prikl.
fot. i kin. 10 no.4:266-272 31-Ag '65. (MIRA 18:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofototehnicheskii tsentr (NIKFT).

BOGOMDIOV, K.S.

Fifth International Conference on Nuclear Photography. Zhur.
nauch. i prikl. fot. i kin. 10 no.4:312-317 J1-Ag '65.

(MIRA 18:7)

FOMINA, I.A.; BOGOMOLOV, K.S.; BABIN, V.V.; MARKOVA, V.S.

Electron sensitometer with thermostatic film holder and automatic exposure modulator. Zhur. nauch. i prikl. fot. i kin. 9 no.3:184-189 My-Je '64. (MIRA 18:11)

1. Moskovskiy energeticheskiy institut (MEI) i Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut (NIKFI). Submitted April 27, 1963.

BOGOMOLOV, K.S.; GRUZ, E.A.

Effect of backing irradiation on the light sensitivity of
photographic materials. Zhur.nauch.i prikl.fot. i kin. 10
no.3:186-193 My-Je '65. (MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut.

L 39736-66 ENT(1)/T IJP(c) GD-2

ACC NR: AP6006407

SOURCE CODE: UR/0413/66/000/002/0147/0147

AUTHOR: Bogomolov, K. S.; Deberdeyev, M. Yu.; Romanovskaya, K. M.

10
S

ORG: none

TITLE: Method of increasing the sensitivity of nuclear photographic emulsions.
Class 57, No. 178263

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 147

TOPIC TAGS: photographic emulsion, nuclear emulsion

ABSTRACT: An Author Certificate was issued for a method of increasing the sensitivity of a nuclear photographic emulsion.¹⁰ To retard its deterioration and to lower the tendency toward regression of the hidden image, the photographic layer of the nuclear emulsion, after being dried to a 0.9 -- 1.5% moisture content, is subjected to drying at 50 -- 60C for 3 to 1 days, respectively, with air humidity not exceeding 1 -- 2%. [LD]

SUB CODE: 14/

SUBM DATE: 13Feb63/

Card 1/1/45

UDC: 771.534.1

BOGOMOLOV, L.A.

Correlation of the map and the text in the geographical description of
a territory. Vop.geog. no.43:94-107 '54. (MLHA 7:12)
(Maps) (Geography)

Bagomolov, L.A.

3(4) PHASE I BOOK EXCERPTION SOV/2065
Moscow. Institut Inzhenerov geodesii, aerofotos "yemal i kartografi
Trudy, vyp. 32 (Transactions of the Moscow Institute of Geodetic
Aerial Survey and Cartographic Engineers, Nr 32) Moscow,
Geodesizdat, 1958. 130 p. 1,000 copies printed.

Ed. of Publishing House: T. A. Shamurova; Tech. Ed.: V. V. Romanov;
Editorial Board: A. I. Mazraishvili (Resp. Ed.), V. I. Avgvich,
(Deputy Resp. Ed.), G. V. Bagratuni, K. Ya. Bobir, M. Shuklov,
A. I. Burnay, S. V. Kellseyev, P. S. Zakarov, G. P. Lashuk,
M. I. Modrinskiy, N. D. Solov'yev, B. V. Ferilov, and F. F. Shokina.

PURPOSE: This collection of articles is intended for geodesists,
photogrammetrists, and cartographers.

COVERAGE: This issue of the Institute's Transactions is composed of
articles on geodesic surveying, photogrammetry, cartography, and
geodesy. The articles and geodesy are discussed in articles on
building line extensions, earthwork computations, precise trigono-
metric leveling, latitude determination, solution of trigonometric
equations, and the geodetic interference comparator. Articles on
photogrammetry include the subheadings photo rectification, spatial
triangulation and photo interpretation. Articles in the fields of
cartography and cartography include: 1) hunters' maps of Czechoslovakia,
2) maps of the Trans-Oka Region of Moscow oblast, and 3) the
distribution of lakes in the East European plains and the Kola-
Karelian Massif. References accompany individual articles.

TABLE OF CONTENTS

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- ✓ Gorbachev, V. M. Architectural Monuments --- The Former Home of I. I. Desalov, Presently Occupied by the Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers (Historical Sketch) 113
- ✓ Karakulina, G. A. The Theory of the Standard Geodetic Interference Comparator 125

AVAILABLE: Library of Congress

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Transact
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Serials

BOGOMOLOV, L.A.

AUTHOR: Bol'shakov, V. D., Candidate of Technical Sciences
TITLE: Scientific and Technical Conference of the NIICA I K (Mauchno-
 tekhnicheskaya konferentsiya NIICA I K) II
PERIODICALS: Investitsiya vyzhiv uchebnykh svedeniy, Geodesiya i
 aerofotoz'yema, 1958, Nr. 2, pp 114-115 (USSR)

ABSTRACT:
 G. A. Ginkhats, Docent, Candidate of Technical Sciences, spoke on "The Relations Between Distortions in Cartographic Projections." L. A. Bogomolov, Candidate of Technical Sciences, reported on "Geodesical Problems in Relation with the Design of Aerial Photographs in Cartographing Inaccessible Regions." A. S. Tolstokhov, Assistant, spoke on "The Relief Representation of Planes on Topographical Maps (Scale 1:100,000)." G. D. Ribter, Professor, Doctor of Geographical Sciences, dealt with the basic geodesic structure of the region, and the consequent cartographical peculiarities of the region.
 Engineer Ye. M. Pektolator reported on the conference held in the NIICA I K (Moscow Engineering Institute of Geodesy, Aerophotography, and Cartography) from May 6 to 10. The participants discussed various questions in relation with the design of geodesical and cartographical instruments with 100 delegates from many universities and scientific institutions, as well as 22 representatives of different Agencies in Leningrad, Kiyev, Sverdlovsk, and other cities, participated in this conference. The Deputy Head of the GUKK, M. D. Kon'abin, read a paper on "Scientific Research in Aerial Camera Design."
 G. I. Volkovoy, Docent, reported on "The Present State of Production of Geodesical Instruments, and Development of New Instruments." V. V. Brovshchov, Professor, gave a lecture on the construction of geodesical instruments in the USSR and developments in geodesical instruments in the USSR and abroad relating to the field. In the different sections questions relating to the design of geodesical and photogrammetrical instruments as well as instruments for aerial photography were discussed. Docent B. V. Yeliseyev, Candidate of Technical Sciences, reported on geodesic engineering instruments. V. M. Meshcheryakov dealt with the new Markshyrd-instruments. V. M. Masaryk, Candidate of Technical Sciences, reported on optical range finders of greater precision. V. A. Veitchap, Candidate of Technical Sciences, on optical range finders of medium accuracy. Engineer I. I. Andrianova and Ye. P. Popov, Candidate of Physical-Mathematical Sciences, spoke on modulators of optical light filaments. Engineer L. V. Babitskovich spoke on the use of new alloys in the manufacture of geodesical instruments. Professor B. Yu. G. dealt with the production of geodesical instruments. Engineer V. E. Slayenko reported on new devices in the production of geodesical instruments. Professor B. Yu. G. dealt with the production of geodesical instruments. A. V. Usakov informed the participants on the results of the Scientific and Technical Conference held in Kiyev (Planning and Production of Geodesical Instruments).

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BOGOMOLOV, L. A., Docent

"The Topographic Evaluation of Aerial Photographs Taken From Airplanes
and Helicopters in the Cartographing of Areas Difficult of Access"

report presented at a Scientific-Technical Conference at Moscow Inst. of Geodesy,
Aerial Photography and Cartography Engineers, 24-26 April 1958)
(Geodeziya i kartografiya, no. 6, pp. 79-80, 1958)

3(4)

AUTHOR:

Bogomolov, L. A. Candidate of
Geographical Sciences

SOV/6-58-10-13/17

TITLE:

Interpretation of Tundra Flora by Indoor Work (Kameral'-noye deshifirovaniye tundrovoy rastitel'nosti)

PERIODICAL:

Geodesiya i kartografiya, 1958, Nr 10, pp 60 - 68 (USSR)

ABSTRACT:

The great variety exhibited by the flora of the tundra has been notable in all scientific quarters. V. N. Andreyev has for many years studied the tundra with the help of aerial photographs. He indicated that on the geobotanical maps at a scale smaller than 1 : 5000 the tundra is heterogeneous. He ascribes this fact to three main causes: The absence of "edificators" (basic plants), a sharply-pronounced quartering of the tundra ground surface, and a marked ability of many plants to react to modifications of individual ecological factors. The fauna of the tundra can be categorized in four classes: A sparsely-growing tundra forest, dwarf forest and brush, dwarf brush and grass, moss and lichen. The interpretation starts with the study of the geographic distribution of the plant formations of the area under review. Information for this

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