

10/11/57
SMOLKIN, G.M., kand. tekhn. nauk; ASTAKHOV, A.I., inzh.; DANILICHEV, V.N.,
inzh.; GONENKO, G.A.

Increasing the economic efficiency of engines by means of disconnect-
ing separate cylinders. Sbor. st. CHPI no.10:19-23 '57. (MIRA 11:1)
(Automobiles--Engines--Cylinders)

KUKLIN, G.V.; SMOL'KOV, G.Ya.; SHILINA, G.I.

Observations of the partial lunar eclipse of March 24, 1959, at the
Irkutsk Magneto-Ionospheric Station. Astron. tsir. no.208:9-11 Ja '60.
(MIRA 13:11)

1. Irkutskaya magnitno-ionsfernaya stantsiya.
(Eclipses, Lunar--1959)

Smolkin, G. E.

USSR/ Nuclear Physics - Luminescent chamber

Card 1/1 Pub. 22 - 12/52

Authors : Zavoyskiy, E. K., Member-Corresp. of the Acad. of Scs. of the USSR;
 Smolkin, G. E.; Plakhov, A. G., and Butslov, M. M.

Title : Luminescent chamber

Periodical : Dok. AN SSSR 100/2, 241-242, Jan 11, 1955

Abstract : A device for studying nuclear reactions is described. It is given the name "luminescent chamber." In construction, it resembles the Wilson chamber, however it has a higher resolving power in respect to time, and permits the detection of relativistic particles of 10^{-10} - 10^{-7} sec. duration. The registration of such particles is done in the chamber with the help of a series of electron-optical converters. Two USA references (1951-1953). Illustrations; graph.

Institution :

Submitted ;

ZAVOYSKIY, Ye.K.; BUTELOV, M.M.; PLAKHOV, A.G.; SMOLKIN, G.Ye.

Luminescent chamber. Atom.energ. no.4:34-37 '56. (MLRA 9:12)
(Scintillation counters)

Smolkin, G. Ye

C-2

USSR/Nuclear Physics

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 11017

Author : Zavoyskiy, Ye.K., Smolkin, G.Ye.

Inst :

Title : Investigation of the Time Resolution of Plane-Parallel Spark Counters.

Orig Pub : Atom energiya, 1956, No 4, 46-50

Abstract : It is shown that the resolution time of plane-parallel spark counters can be reduced to 10^{-10} seconds by reducing the interelectrode gape and increasing the working voltage. An investigation of the resolving time was made from the gamma gamma coincidence by determining the relative delay of the discharge in two counters, which registered cascade gamma quanta from a Co^{60} compound (lifetime of excited level 1.33 Mev of Ni^{60} is approximately

Card 1/2

USSR/Nuclear Physics

C-2

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 11017

7.5×10^{-13} seconds). The delay was determined by photography of the sparks in the two counters with the aid of an electron-optical converter and with a sweep of the point image over a circle (duration of sweep 5×10^9 seconds). The greatest measurement error is connected with the inaccuracy in determining the fronts of the sparks on the photographs and amounts to approximately 5×10^{-11} seconds. The counter operated at distances between electrodes of 0.2 mm. The chamber was filled with argon and saturated vapors of ether to a total pressure of 12 atmos. The authors believe that the attained resolution time is not limiting and can be reduced to 10^{-11} seconds.

Card 2/2

~~Smolkin, G. E.~~

Smolkin, G. E.

3
1 - Rmk

Handwritten:
5417
R. P. [unclear]

5417
INVESTIGATION OF THE TIME-RESOLVING POWER OF
PLANE-PARALLEL SPARK COUNTERS. ² E. K. Zavoisky
and G. E. Smolkin, Soviet J. Atomic Energy 4, 495-9
(1958).

A study has been made of the resolving power of plane-parallel spark counters with small working gap and high pressure of the gas mixture. It is shown that the resolution time of such counters may reach 10^{-7} sec. (auth)

Handwritten:
Rmk [unclear]

SMOLKIN, G. E.

CARD 1 / 2

PA - 1795

SUBJECT USSR / PHYSICS
AUTHOR ZAVOJSKIJ, E.K., SMOLKIN, G.E.
TITLE On the intermolecular Transfer of Excitation Energy in Crystals.
PERIODICAL Dokl. Akad. Nauk, 111, fasc. 2, 328-330 (1956)
Issued: 1 / 1957

The present work endeavors to carry out immediate photographic registration of the dimensions of the domain in which energy transfer takes place in a large stilben crystal on the occasion of its irradiation with the α -particles of

Po^{210} . The authors found that the transfer of excitation energy takes place at distances of some millimeters.

The dimensions of the domain of intermolecular energy transfer in crystals can be estimated with comparative ease by means of a luminescence chamber. For this purpose it is sufficient to photograph the traces of the ionizing particles in these crystals. The authors carried out such experiments with crystals of anthracene and CsJ(Tl), on which occasion they caused α -particles of Po^{210} (with 5,3 MeV) to impinge upon the surface of the crystal under a small angle. The images of the traces were projected by means of a microscope (200-300-fold enlargement) upon the photocathode of an electron-optic transformer. The α -particles in the crystals of the anthracene and cesium iodide had ranges of 34 and 27 μ . The amplification coefficient of the electron-optic transformer was sufficiently high and made the photographic registration of an electron flying out from the input photocathode possible. Some photographs of the traces of

Dokl.Akad.Nauk, 111, fasc.2, 328-330 (1956)

CARD 2 / 2

PA - 1795

α -particles are attached. The images of the traces in some cases consist of single points. Each point corresponds to an electron emitted from the input photocathode. The number of points per unit of length of the trace is determined by the light yield of the crystal, by the quantum yield of the photocathode of the electron-optic transformer, by the properties of the optics used and finally by agreement of the spectro-sensitivity of the photocathode with the emission spectrum of the crystal. The traces in the anthracene and in the cesium iodide were photographed at the same conditions and the emission spectra of these crystals agreed fully with the curve of the spectral sensitivity of the antimony-cesium cathode. There follows a rough calculation of the number N of the points for the total range of α -particles. $N \sim 10$ is found for anthracene and $N \sim 150$ for CsJ(Tl). These values agree satisfactorily with the experimental data obtained by the authors. In the case of anthracene and also of CsJ(Tl) luminescence-light is thus radiated from such molecules as are located at no greater distance from the plane of the passage of the α -particle than the minimum distance ($\pm 1 \mu$) still resolvable by the experimental device.

INSTITUTION:

Dokl.Akad.Nauk, 111, fasc.5, 996-999 (1956) CARD 2 / 2 PA - 1911

For the reliable separation and registration of an electron, and for the purpose of determining the character of the emission of the multi-electron component of inherent (own) noises the defocussing of the electronic image in the input cascade of the light amplifier was used here. On this occasion quantitative measurements of both components of the dark current were successfully carried out. The fact that the two components are created in different manners is, above all, indicated by the dependence on temperature. When the photocathode was cooled in liquid nitrogen, the single electron current vanished completely, which indicates its thermoelectronic origin. At the same time the multi-electron component of the dark current remained practically unchanged. The data available at present are not sufficient for the determination of the origin of the multi-electronic dark current. Possible causes are the auto-electronic emission from the unevennesses (spheruliths) of the photocathode or the bombarding of the cathode with heavy ions.

The aforementioned experimental data prove that the utmost coefficient of electron-optic amplification is attained and that a further increase of sensitivity must be attempted by increasing the quantum yield of the photocathode. Besides, the registration of an electron permits the study of such phenomena at which only one photoelectron (or a secondary electron) flies away from the input photocathode.

INSTITUTION:

120-4-16/35

AUTHOR: Smolkin, G. Ye.

TITLE: Electron-optical Pulsed Gate with a Light (photo) Memory
(Elektronnoopticheskiy impulsnyy zatvor so svetovoy pamyat'yu)

PERIODICAL: Priroda i Tekhnika Eksperimenta, 1957, No.4,
pp. 60 - 63 (USSR).

ABSTRACT: The methods of electron-optical amplification of light and of electron-optical chronography as developed by Ye.K. Zavoytskiy (Refs.1-4) are very suitable for the investigation of weak and rapidly changing light processes. The light amplifier used in these methods has a gain sufficiently high to allow the minimum possible signal - a single electron from the photocathode - to be photographically recorded. With such weak signals, the noise of the apparatus becomes important, creating a background of noise at the output of the apparatus. To reduce the noise output, the supply to the output stage of the amplifier is pulsed to give an exposure time of T . T has to be large enough to utilize the total light of the screen, but with large values the background noise becomes comparable to the signal. In addition to pulsing the supply to the output stage, the input and first stages are also pulsed; the pulse duration $\tau \ll T$ (Ref.1). and the first fluorescent screen is used as Card1/2 a light memory. The circuit is given in Fig.1. Initially, the

5.1.

AUTHORS

Buzlov, M. M., Zavoyskiy, Ye. K., SO7/20-121-9-13/50
Corresponding Member, Academy of Sciences, USSR, Kalinyak,
A. A., Nikonov, V. B., Prokof'yeva, V. V., Smolkin, G. Ye.

TITLE:

The Use of Multistage Electron-Optical Light Amplifiers
in Astrophysics (O primeneniі mnogokaskadnykh elektronno-
opticheskikh usiliteley sveta v astrofizike)

PERIODICAL:

Doklady Akademii nauk SSSR, Vol 121, Nr 5,
pp 818 - 818 (USSR)

ABSTRACT:

This paper investigates some problems connected with the application of electron-optical light amplifiers in astrophysics. The authors estimate the increase in efficiency of the utilization of the photon flux with respect to the usual photographic method. Under the investigated conditions, and in the case of equal dimensions of the pictures, the efficiency of the electron-optical method is by $\sim 4 \cdot 10^3$ times higher than in ordinary photography. An increase in scale on the photocathode of the light amplifier reduces the increase in sensitivity of the electron-optical method compared with a usual photographic plate by 160 times. An estimation of the sensitivity

Card 1/5

The Use of Multistage Electron-Optical Light Amplifiers SOV/26-12'-5-13/50
in Astrophysics

of the light amplifiers gives a value of the order of 1000. The use of an electron-optical amplifier usually cannot increase the penetration range of the telescope. But the reduction of the times of exposure by hundreds of times of its amount due to the high sensitivity of the light amplifier essentially changes the possibilities of the astrophysical investigation. The short times of exposure permit the investigation of rapidly varying processes of very faintly visible objects and a considerable increase of the utilization coefficient of the astrophysical instruments. The reduction of the times of exposure is very important for astrospectroscopy. The above-discussed considerations are confirmed by the results obtained by experiments carried out by the authors in the Krymskaya astrofizicheskaya observatoriya AN SSSR (Crimean Astrophysical Observatory AS USSR). The proper noises of the light amplifier may be neglected in comparison with the background of the sky. According to the experimental values, the use of the light amplifier permitted a reduction of the times of exposure approximately to a thousandth part of their former amount

Card 2/3

The Use of Multistage Electron-Optical Light Amplifiers SOV/20-121-5-13/50
in Astrophysics

which satisfactorily agrees with the above-given estimate.
A figure shows the photographs of 2 extragalactic nebulae
which were taken by means of a light amplifier. There are
4 figures, 1 table, and 6 references, 3 of which are Soviet.

ASSOCIATION: Krymskaya astrofizicheskaya observatoriya Akademii nauk SSSR
(Crimean Astrophysical Observatory AS USSR) Glavnaya astro-
nomicheskaya observatoriya Akademii nauk SSSR (Astronomical
Main Observatory, AS USSR)

SUBMITTED: April 14, 1958

Card 3/3

BUTSLOV, M.M.; ZAVOSKIY, Ye.K.; PIAKHOV, A.G.; SMOLKIN, G. Ye.; FANCHENKO,
S.D.

Electron optical method of the photography of ultrahigh-speed
processes. Usp.nauch.fot. 6:84-89 '59. (MIRA 13:6)
(Electron optics)
(Photography, Instantaneous--Scientific applications)

BOLOTIN, V.F.; ZAVOYSKIY, Ye.K.; OGANOV, M.N.; SMOLKIN, G.Ye.;
STRIGANOV, A.R.

[Use of electron-optical light amplifiers for spectroscopic studies of a weakly radiating plasma] O primeneni elektronno-opticheskikh usilitelei sveta dlia spektroskopicheskikh issledovani slabsvetiashcheisia plazmy. Moskva, In-t atomnoi energii, 1960. 11 p. (MIRA 17:2)

AKHMATOV, A.P.; BLINOV, P.I.; BOLOTIN, V.F.; BORODIN, A.V.;
GAVRIN, P.P.; ZAVOYSKIY, Ye.K.; KOVAN, I.A.; OGANOV, M.N.;
PATRUSHEV, B.I.; PISKAREV, Ye.V.; RUSANOV, V.D.; ~~SMOLKIN~~,
G.Ye.; STRIGANOV, A.R.; FRANK-KAMENETSKIY, D.A.; CHEREMNYKH,
P.A.; CHIKIN, R.V.

[Magnetoacoustic resonance in a plasma] Magnito-zvukovoi
rezonans v plazme. Moskva, In-t atomnoi energii, 1960. 23 p.
(MIRA 17:2)

Smolkin, G. V.

8757
S/O56/60/039/003/002/045
3004/8060

26.1/10
AUTHORS:

Alimov, A. P., Alimov, R. I., Bolotin, V. P., Borodko, A. M., Gerasimov, P. P., Zavorozkiy, Ye. A., Kovalev, V. A., Kuznetsov, V. A., Kuznetsov, D. I., Litvinov, Ye. V., Litvinov, V. D., Smolkin, G. V., Stepanov, A. N., Stepanov, V. A., Shchegolev, D. A., Shchegolev, V. A., Zhurav, N. V.

TITLE: Magnetoacoustic Resonance in the Plasma

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 3 (9), pp. 396-398

TEXT: The authors wanted to study the penetration of oscillations into the plasma taking place essentially to a static magnetic field. From the physical point of view this process has a course similar to acoustic oscillations, with the difference that the magnetic pressure $H^2/8\pi$, and not pressure, is effective here. (1) is written down as a resonance condition: $\omega H_0 / \omega \sqrt{1 + \omega^2 / \omega_{pe}^2} = 1$, where ω is a dimensionless number characterizing the type of oscillations, H_0 the strength of the static magnetic field, ρ the density of the plasma, ω_{pe} the cyclotron frequency, and R the radius of the plasma cylinder. The following is written down for the radial amplitude of the plasma motion velocity: $v_r \approx \omega H_0 / H_0 \sqrt{1 + \omega^2 / \omega_{pe}^2}$ (H_0 - strength of the magnetic alternating field, v_r - phase velocity of the magnetic field). The interaction of an electromagnetic high-frequency field H with a cold plasma was experimentally investigated in a cylinder in the presence of an axial quasistatic magnetic field H_0 . Fig. 1 shows the scheme of the apparatus used for the experiments. In one such experimental series the alternating field had a frequency of 12.5 Mc/sec, while in another series the frequency was 50 Mc/sec. The plasma glow was recorded by an $\Phi 3Y-19$ (ZSU-19) photomultiplier and an OK-11 (OK-11) oscilloscope, while the penetration of high-frequency oscillations into the plasma and the radial amplitude of the magnetic alternating field were studied with the aid of a magnetic probe. The experiments were conducted with hydrogen, helium, argon, and air at an initial pressure of

(2)

Card 2/4

10⁻⁴ - 6.10⁻⁵ torr. The oscillograms of Figs. 2, 3 show that resonance phenomena appear in the range between 300 cps/dec and 5 kilocycles/dec. There is a dependence of the resonance on the spectral lines of hydrogen. There is a dependence of the amplitude H_0 of the magnetic resonance field on the amplitude of the H-field. Fig. 5 shows the spatial distribution of the amplitude H_0 of the resonance field in hydrogen and argon. As may be seen from Fig. 6, the resonance shows a linear structure, while effect is being further investigated. A fine structure of 2.5 ω was calculated from the Doppler broadening. A fine structure of 2.5 ω corresponding to 0.9 λ . Experimental data at frequencies above the hybrid frequency (1). Experimental data at frequencies above the hybrid frequency with frequencies below the hybrid frequency. The authors assume that the appearing oscillations propagated obliquely, not perpendicularly to H_0 . This was confirmed by measurement of the azimuthal component of the magnetic field H_θ (Fig. 9). The authors thank I. I. Kurshakov, Academician, for interest displayed in the work. There are 9 figures and 4 references: 2 Soviet, 1 US, and 1 German.

Card 3/4

SUBMITTED: April 2, 1960

S/120/62/000/006/019/029
E140/E435

AUTHORS: Levin, G.L., Markov, A.A., Plakhov, A.G., Smolkin, G.Ye.
Sofiyev, G.N., Stepanov, G.N., Shapkin, V.V.

TITLE: Line and frame scanning generator for electron-optical
image intensifiers

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1962, 100-106

TEXT: The authors discuss the use of image-intensifier tubes for
the spectroscopic and space-geometric study of pulsed gas
discharges in plasma studies (controlled thermonuclear synthesis).
The system permits spectral analysis of dynamic processes with
time resolution in the range 5×10^{-8} to 1.25×10^{-5} sec. ✓
A five-stage intensifier is used. Free-running and triggered
versions are used, the latter to reduce background noise where
necessary. There are 6 figures.

ASSOCIATION: Institut atomnoy energii AN SSSR
(Institute of Atomic Energy AS USSR)

SUBMITTED: January 25, 1962
Card 1/1

SMOLKIN, G.Ye.; TITOV, A.V.

Bicylindrical objective for time-base scanning of the spectrum by means
of an electron-optical light amplifier. Prib. i tekhn. eksp. 8 no.2:
129-133 Mr-Apr '63. (MIRA 16:4)

1. Institut atomnoy energii AN SSSR.
(Electron optics) (Spectrograph)

L 17870-63 EWT(1)/EWG(k)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/
IJP(C)/SSD Pz-4/Pi-4/Po-4/Pab-4 AT S/0048/63/027/007/0986/0990 85
ACCESSION NR: AP3003708 84

AUTHOR: Bolotin, V.F.; Zavoyskiy, Ye.K.; Oganov, M.N.; Smolkin, G.Ye.; Striganov, A.R.

TITLE: Use of image intensifier tubes for spectrometric investigation of weakly luminous plasmas /Report of the Fourteenth Conference on Atomic and Molecular Spectroscopy held in Gor'kiy from 5 to 12 July 1961

SOURCE: AN SSSR, Izv.Seriya fizicheskaya, v.27, no.7, 1963, 986-990

TOPIC TAGS: image intensifier , plasma spectroscopy, photographic spectroscopy

ABSTRACT: The present paper is a general discussion, based on the literature and some preliminary and tentative experiments, of the feasibility of using electron-optical image intensifiers for spectroscopic purposes. The results of the authors' preliminary experiments, involving pulse discharges in hydrogen and other gases, show that lines too weak to be recorded by the conventional photographic procedure can be detected with the aid of an image intensifier. Comparison with line widths determined in other ways indicates that the image intensifier technique does not introduce significant line broadening. It is noted that use of high amplification factors involves special problems as regards processing of the photographic nega-

Card 1/2

L 17870-63

ACCESSION NR: AP3003708

tives and subsequent microphotometry. / Abstracter's note: A block diagram of the set-up is given, but the paper does not describe the intensifier tube or give any quantitative details. / Orig.art.has: 3 figures.

ASSOCIATION: Institut atomnoy energii im I.V.Kurchatova Akademii nauk SSSR (Institute of Atomic Energy, Academy of Sciences, SSSR)

SUBMITTED: 00

DATE ACQ: 02Aug63

ENCL: 00

SUB CODE: SD, PH

NO REF SOV: 009

OTHER: 000

Card 2/2

ACCESSION NR: AP4009105

S/0056/63/045/006/1850/1857

AUTHOR: Zagorodnikov, S. P.; Smolkin, G. Ye.; Sholin, G. V.

TITLE: Spectroscopic investigation of a turbulently heated plasma

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963,
1850-1857

TOPIC TAGS: plasma heating, plasma turbulence heating, high density plasma, high temperature plasma, plasma spectrum, plasma spectroscopic investigation, wave penetration, electron heating rate, electron temperature, electron temperature distribution, emission line intensity, impurity effect

ABSTRACT: A spectroscopic investigation is reported of turbulence heating of a helium plasma with a relatively high electron density, for the purpose of using turbulence heating to obtain and investigate high-temperature plasmas. An image converter was used to obtain a time-resolved spectrum of the heated plasma, so as to trace the dynamic behavior of the spectral lines in each phase of a single

Card 1/42

ACCESSION NR: AP4009105

discharge. Tests were made to determine the penetration of the wave into the plasma, the electron heating rate, and the radial distribution of the electron temperature in the discharge tube. All these characteristics were determined from the radial distribution of the emission intensity of the individual spectral lines. An estimated $T_e \approx 100$ eV was obtained for the electron temperature in a plasma of density $n_e = 2 \times 10^{13} \text{ cm}^{-3}$. The impurity content, which plays an important role in the heat balance of a plasma with hot electrons, was found not to exceed 1 per cent of the primary component under typical experimental conditions. "In conclusion, we thank Ye. K. Zavoytsky under whose initiative and constant attention the work was performed. We are also grateful to L. I. Rudakov for continuous interest in the work and useful discussions, M. V. Babykin for help in constructing the experimental apparatus, and P. I. Blinov for help with the microwave measurements." Orig. art. has: 6 figures and 1 formula.

Card 2/47

L 16108-65 EWT(1)/ENP(m)/EWG(k)/EPA(sp)-2/EPA(w)-2/EEC(t)/T/EEC(b)-2/FCS(k)/
EWA(m)-2/EWA(h) Pz-6/Po-4/Pd-1/Pab-10/Pi-4 ESD(t)/AFDC(a)/SSD(b)/ASD(a)-5/
AS(mp)-2/ASD(p)-3/AFETR/RAEM(a)/IJP(c) AT

ACCESSION NR: AP500319

S/0056/64/547/005/1717/1720

AUTHORS: Zagorodnikov, S. P.; Rudakov, L. I.; Smolkin, G. Ye.;
Sholin, G. V. B

TITLE: Observation of shock waves in a collision-free plasma

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47,
no. 5, 1964, 1717-1720

TOPIC TAGS: plasma electromagnetic wave, shock front propagation,
discharge plasma, electron temperature, compression shock wave

ABSTRACT: The purpose of the investigation was to clarify the character of propagation of a strong electromagnetic wave in a rarefied plasma, to study the possibility of existence of shock waves in such a plasma, and to investigate the energy-dissipation mechanism that leads to the heating of the electrons in the plasma. The experiments were made under conditions analogous to those used in

1/3

L 16108-65

ACCESSION NR: AP5000319

earlier studies of turbulent heating. The experimental setup was similar to that described by the authors elsewhere (ZhETF v. 45, 1850, 1963), except that a larger discharge chamber (6 cm in diameter) was used, and the high frequency resonant circuit was an artificial line which produced a trapezoidal magnetic pulse in the discharge chamber. The plasma density ranged from $\sim 10^{11}$ to $\sim 10^{14}$ cm^{-3} . Many of the procedures were the same as in the earlier study. A compression shock wave was observed, traveling from the periphery towards the axis of the discharge tube with a velocity close to Alfvén velocity. The shock wave had a sharply delineated front in which an intense dissipative process is developed with a jump in the electron temperature from ~ 0.1 eV ahead of the front to several hundred eV behind the front. The time width of the front did not exceed $(3-4) \times 10^{-8}$ sec. At least a 2.5-fold increase in the steepness of the compression wave was observed, with a minimum time width $\sim 2 \times 10^{-8}$ sec. The propagation of a rarefaction wave in the collision-free plasma was not accompanied by for-

Card 2/3

L 16108-65

ACCESSION NR: AP5000319

mation of a shock wave, and in this case the wave front is compressed. "The author thanks Ye. K. Zavoyskiy for interest in the work and for useful discussions." Orig. art. has: 2 figures.

ASSOCIATION: None

SUBMITTED: 16Jun64

ENCL: 00

SUB CODE: ME

NR REF SOV: 004

OTHER: 000

Card 3/3

Observation of shock waves in a collision-free plasma. Phys. Rev. Lett. 36:1001-1004 (1976)

Observation of shock waves in a collision-free plasma. Phys. Rev. Lett. 36:1001-1004 (1976)

(LHA 18:4)

L 1123-66 EWT(1)/EWA(h)

ACCESSION NR: AP5016392

UR/0120/65/000/003/0177/0182
621.383.8

41
37
B

AUTHOR: Demidov, B. A.; Smolkin, G. Ye. Sotnikov, V. M.; Sofiyev, G. N.; Fanchenko, S. D.

TITLE: Internal-noise spectrum and gain dispersion of multistage image-converter tubes

SOURCE: Pribery 1 tekhnika eksperimenta, no. 3, 1965, 177-182

TOPIC TAGS: image converter

ABSTRACT: To eliminate the fringe effect in measuring the internal-noise spectrum, a special method was used which permitted opening the input of a multichannel differential analyzer only for the pulses whose images did not extend beyond the isolated area on the type 95 image-tube screen. It was found that: (1) The noise distribution is exponential (curves supplied) and (2) The gain dispersion of an image-converter tube operating on the principle of optical contact between the luminescent screen and the adjacent photocathode is described by a Poisson-type distribution of the output pulses. "The authors wish to thank Ye. K. Zavoyevskiy for discussing the work; L. Z. Dzhilavyan for carrying out preliminary

Card 1/2

L 1123-66

ACCESSION NR: AP5016392

4
measurements, M. M. Butslov for lending image tubes, Yu. L. Sokolov for lending optical instruments, and A. A. Mitin for his assistance in aligning the analyzer.
Orig. art. has: 4 figures and 1 table.

ASSOCIATION: Institut atomnoy energii GKAE, Moscow (Institute of Atomic Energy, GKAE)

SUBMITTED: 22Apr64

ENCL: 00

SUB CODE: EC

NO REF SOV: 013

OTHER: 005

Card 2/2

L 31829-65 EWT(d)/EWT(1)/EEG(k)-2/EEG-l/EPA(w)-2/EEG(t)/T/EWA(m)-2/EPA(sp)-2 Pg-4/
 P1-l/Pk-l/P1-l/Po-l/Pq-l/Pz-6/Pab-10 IJP(c) AT S/0056/65/048/001/0061/0064
 ACCESSION NR: AP5004373

74
70
B

AUTHOR: Blinov, P. I.; Zagorodnikov, S. P.; Smolkin, G. Ye.; Sholin, G. V.

TITLE: Measurement of the density of a plasma decaying in a magnetic field with the aid of microwave and Fabry-Perot interferometers

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 61-64

TOPIC TAGS: plasma decay, plasma electron density, Fabry Perot interferometer, microwave interferometer

ABSTRACT: This work was performed in connection with an investigation of shock waves in a rarefied plasma, described by the authors previously (ZhETF, v. 7, 1717, 1964). The electron density decrease was measured with microwave interferometers at wavelengths 8 and 4 mm. A microwave bridge circuit was used, in which one beam passed through the investigated plasma in an attenuator, and the other beam (in the reference channel) passed through an attenuator and a phase shifter. The voltage oscillations at the detector output of such a circuit are in the final analysis a function of the plasma density in the measuring channel. Each inter-

Card 1/3

L 31829-65

ACCESSION NR: AP5004373

ferometer was used to obtain approximately 10 experimental points on the density fall-off curve in the corresponding range of electron concentrations. The two interferometers gave nearly identical results in the band in which their readings overlapped ($5 \times 10^{12} - 10^{13} \text{ cm}^{-3}$). The results are plotted in Fig. 1 of the enclosure. In view of the difficulty of using microwave methods at densities above $4 \times 10^{13} \text{ cm}^{-3}$, the plasma density was measured by determining the Stark effect of the hydrogen Balmer lines. The Stark widths were measured with a Fabry-Perot interferometer crossed with an ISP-51 spectrograph. The time variation of the spectral line width was measured using a fast time-resolved sweep of the spectrum with an electron-optical converter. The time decay curves obtained by the two types of interferometers go over smoothly into each other. "The authors thank Ye. K. Zavoyskiy for a discussion and interest in the work and M. M. Butslav for providing the electron-optical converter." Orig. art. has: 2 figures. [02]

ASSOCIATION: none

SUBMITTED: 16Jun64

NO REF SOV: 005

ENCL: 01

OTHER: 001

SUB CODE: EM

ATD PRESS: 3199

Card 2/3

L 31829-65

ACCESSION NR: AP5004373

ENCLOSURE: 01

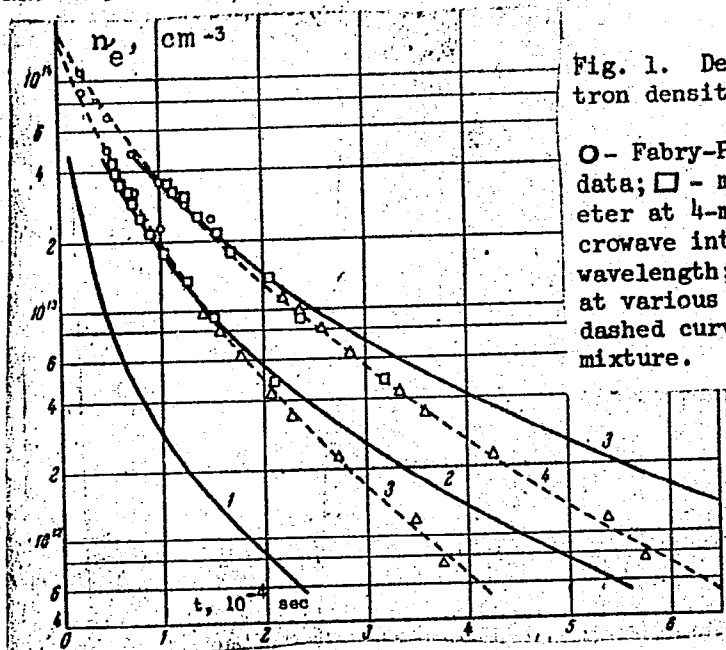


Fig. 1. Decrease in plasma electron density

○ - Fabry-Perot interferometer data; □ - microwave interferometer at 4-mm wavelength; △ - microwave interferometer at 8-mm wavelength; solid curves - helium at various field intensities; dashed curves - helium-hydrogen mixture.

Card 3/3

ACC TRG AT6001401 SOURCE CODE: UR/3180/64/009/000/0175/0183

AUTHOR: Bolotin, V. F.; Demidov, B. A.; Zavoyskiy, Ye. K.; Skachkova, Yu. E.; Smolkin, G. Ye.; Fanchenko, S. D.

ORG: none

TITLE: Further development of the electrooptical chronographic method and its application to physical plasma investigations

SOURCE: AN SSSR. Komissiya po nauchnoy fotografii i kinematografii. Uspexi nauchnoy fotografii, v. 9, 1964. Vysokoskorostnaya fotografiya i kinematografiya (High-speed photography and cinematography), 175-183 and insert facing page 169

TOPIC TAGS: time measurement, electric discharge, electrooptic image intensifier, plasma diagnostics

ABSTRACT: It was established earlier that the multistage electrooptic converter invented by Prof. M. M. Butslav has a limiting brightness amplification coefficient which allows it to register single photons. Theoretical discussions showed that similar setups can have a resolving time down to 10^{-14} sec and some spark radiation scanning experiments achieved a resolution of $3 \cdot 10^{-13}$. This led to the use of similar devices in electrooptical chronography. This article surveys the principles of operation of electrooptical devices and the results of plasma investigations using electrooptical chronography. The authors cover 1) the methodology of electrooptical chronography, including power feeding and synchronization of multistage electrooptical converters and time scanning of converted images; and 2) physical

Card 1/2

Card

2/2

SUB CODE: 14, 20 / SUBM DATE: none / ORIG REF: 015

studies of the plasma including processes in spark discharge plasmas (circuit and block diagrams of setups for time scanning, spark channel widening velocity data), use of electrical chronography for the study of HF-field interaction with plasma (block diagram of a device for the study of plasma luminosity during magnetoacoustic resonance), and a brief discussion of special features of electrooptical investigation of plasmas. A resonator for the scanning systems was proposed by R. V. Chikin of the Butslav laboratory. Orig. art. has: 11 figures and 1 table.

ACC NR: AT6001404

L 39662-66

L 25676-66 EWT(1)/ETC(f)/EPF(n)-2/EWIG(m)/ETC(m)-6 IJP(c) WW/AT
 ACC NR: AT6001559 SOURCE CODE: UR/3136/65/000/909/0001/0008

AUTHOR: Zagorodnikov, S. P.; Rudakov, L. I.; Smolkin, G. Ye; Sholin, G. V.

ORG: none

TITLE: Investigation of the structure of a strong magnetosound wave front in rarefied plasma 2 /

SOURCE: Moscow. Institut atomnoy energii. Doklady, IAE-909, 1965. Issledovaniye struktury fronta sil'noy magnitno-zvukovoy volny v razrezhennoy plazme, 1-8

TOPIC TAGS: plasma magnetic field, sound wave, magnetic field, rarefied plasma, constant magnetic field, plasma wave

ABSTRACT: This is a continuation of previous experiments reported by the authors in ref. 4 (ZhETF, 47, 1717, 1964). The experiments were inspired by the work of J. H. Adlam and J. E. Allen (Proc. Phys. Soc. London, 75, 640, 1960), where a numerical solution was found for the problem of the unsteady motion of a magnetic piston along rarefied plasma, based on two concrete formulas on the change of the magnetic field in time at the boundary of plasma:

$$H_n(t_n) = 1 + \alpha t_n \quad (1)$$

and

$$H_n(t_n) = 1 + \beta [1 - \exp(-\alpha t_n)] \quad (2)$$

Card 1/2

L 25676-66

ACC NR: AT6001559

3

The profile of the magnetic field of plasma was found for certain values of t_n , when $\alpha = 1$ and $\beta = 1$. The experiments were conducted under conditions similar to those reported by the authors in ref. 4. The wave was excited by a trapezoidal impulse of the magnetic field Π , developed at the boundary of a cylindrical plasma column with a diameter of 6 cm and length of 30 cm, within the constant magnetic field H_0 . The period of the impulse was $\tau_0 = 5.5 \times 10^{-8}$ sec. The plasma density n_0 preceding the wave front varied between $\sim 0.5 \times 10^{12}$ and $\sim 6 \times 10^{13}$ cm⁻³. The magnetic Mach number μ varied between 1.3 and 4.2. For all values of μ there was observed a process of nonlinear rotation in the plasma as compared with the front given in formulas (1) or (2). No abnormal growth in the width of the front was observed in the $2 < \mu < 4.2$ region. This is apparently related to the unstabilized character of the wave front in these experiments. All other results coincide with the findings of Adlam and Allen. In conclusion, the authors note that they have observed during their experiments an absorption of wave energy at the front, which grew with the increase of n_0 . In the plasma behind the wave front, electrons with an energy of 50 eV appeared. The authors thank E. K. Zavoytskiy for his interest in the experiments and A. A. Vedenov and E. P. Velikhov for their valuable discussions. Orig. art. has: 2 formulas and 3 figures.

SUB CODE: 20 / SUBM DATE: 00/ ORIG REF: 002/ OTH REF: 008

Card 2/2 dda

L 9228-66 EWT(1)/EWT(m)/ETC/EPF(n)-2/EWG(m)/EWP(t)/EWP(b)/ETC(m) I.P(c) -
ACC NR: AP5026103 JD/WW/AT SOURCE CODE: UR/0386/65/002/005/0238/0241

AUTHOR: ^{44.55} Zagorodnikov, S. P.; ^{44.55} Rudakov, L. I.; ^{44.55} Smolkin, G. Ye.; Sholin, G. V.

96
87
B

ORG: none

TITLE: Investigation of the structure of the front of a strong magnetic-sound wave in a rarefied plasma

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 2, no. 5, 1965, 238-241, and insert, side A, between p. 238 and 239

TOPIC TAGS: ^{21, 44.55} plasma wave propagation, rarefied plasma, helium plasma, magnetohydro-dynamics, sound wave

ABSTRACT: ^{21, 44.55} The article is devoted to an experimental investigation of the structure of the front of a strong magnetic-sound wave propagating in a rarefied plasma transverse to a magnetic field. The experiments were carried out under the conditions described in an earlier paper by the authors (ZhETF v. 47, 1717, 1964). The wave was excited by a trapezoidal pulsed magnetic field H, produced on the boundary of a cylindrical plasma column (diameter 6 cm and length 30 cm) in a constant magnetic field H₀. The pulse growth time was $\tau_0 = 5.5 \times 10^{-8}$ sec. The plasma density n_0 ahead of the wave front ranged from $\sim 0.5 \times 10^{12}$ to $\sim 6 \times 10^{13}$ cm⁻³. The magnetic Mach number μ varied in the range ~ 1.3 -- 4.2 . The following results were obtained. Non-linear twisting of the wave front in the plasma was observed for all the indicated values of μ . The profile of the magnetic field in the plasma was in good agreement

Card 1/2

2

L 9228-66

ACC NR: AP5026103

with the profile calculated by J. H. Adlam and J. E. Allen (Proc. Phys. Soc. (London) v. 75, 640, 1960) within the accuracy of the cylindrical effect. The width of the transition region coincides, with ~50% accuracy (taking nonstationarity into account), with the width calculated by Adlam and Allen. Oscillograms of the magnetic-probe signals show that the front of the magnetic field, which increases linearly on the plasma boundary, changes inside the plasma into an exponentially growing front with a gradually increasing slope. The absorption of the wave energy on the front increases with increasing n_0 . At the same time, electrons with energy larger than 50 eV appeared behind the wave front. The energy transfer from the wave to the plasma electrons is attributed either to instability or ionization collisions of the electrons on the wave front. Authors are grateful to Ye. K. Zavoytsky for interest in the work and to A. A. Vedenov and Ye. P. Velikhov for valuable discussions. Orig. art. has: 3 figures and 2 formulas.

SUB CODE: 20/ SUBM DATE: 17Jul65/ ORIG REF: 003/ OTH REF: 007

Card 2/2

SMOLKIN, M. N.

Absolute spectral sensitivity of the **NU-11** photocathode. Inzh.-fiz.
zhur. no.5:84-86 My '58. (MIRA 12:1)
(Photoelectric multipliers)

SMOLKIN, M.N.

Absolute spectral sensitivity of some photoelectric receivers.
Opt.-mekh.prom. 25 no.5:35-38 My '58. (MIRA 11:9)
(Photoelectric cells)

S/170/60/003/006/009/011
B013/B067

AUTHOR: Smolkin, M. N.
TITLE: Absolute Spectral Sensitivity of Photocells
PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1960, Vol. 3, No. 6,
pp. 104 - 106

TEXT: A method of measurement is suggested and results of measurements of the absolute spectral sensitivity of some photoelectric receivers in the range of 200- 700 mμ are given. Fig. 1 shows the absolute spectral sensitivity of selenium photocells which were prepared according to a special method by S. I. Freyvert and T. A. Boldyreva. Fig. 2 shows the absolute spectral characteristics of photocells with cathodes of pure metals. It shows that magnesium photocells are much more sensitive than zinc or cadmium photocells. Fig. 3 shows the spectral characteristics of photocathodes. As may be seen from Figs. 2 and 3, the antimony-cesium cathode is to be preferred. At $\lambda = 225$ mμ its spectral sensitivity is about 200 times higher than that of the magnesium cathode. The spectral characteristics were measured at $22 \pm 0.5^{\circ}\text{C}$. The measure-

Card 1/2

Absolute Spectral Sensitivity of Photocells S/170/60/003/006/009/011
B013/B067

ment errors were: a) for photocells with cathodes consisting of pure metal: $\pm 15\%$; b) for all other photocells in the range from 200 to 250 $\mu\mu$: $\pm 10 - 12\%$; and in the range from 250 to 700 $\mu\mu$: 7 - 8%. The author thanks Professor M. M. Gurevich and S. I. Freyvert for valuable advice, and V. N. Gladilov and N. P. Novopol'skiy for assistance in the measurements. Furthermore, T. N. Rabotnova and L. V. Kononchuk are mentioned. There are 3 figures and 7 Soviet references.

✓
B

Card 2/2

GLADILOV, V.N., inzh. [deceased]; BUTTS, A.A., inzh.; NOVOPOL'SKIY, N.N.,
inzh.; SMOLKIN, M.N., inzh.

Light characteristics of some incandescent lamps operating as "A"-
type sources. Svetotekhnika 7 no.9:23 S '61. (MIRA 14:9)

1. Gosudarstvennyy opticheskiy institut.
(Electric lamps, Incandescent)

SMOLIN, M.M.; BARDIKOV, N.B.

Spectral density of the energy brightness of hydrogen and deuterium
lamps in the ultraviolet region of the spectrum. Opt. Spektrosk. 1985
41:410-416. (1985)
(Photometry) (Lamps)

ACCESSION NR: AP4035483

S/0051/64/016/005/0905/0907

AUTHOR: Voyshvillo, N.A.; Smolkin, M.N.

TITLE: Concerning the use of opal glass as the standard in measuring reflection coefficients

SOURCE: Optika i spektroskopiya, v.16, no.5, 1964, 905-907

TOPIC TAGS: light reflection, opal glass, milky glass, MS-14 glass, pyroceramic

ABSTRACT: The reflection of different substances is usually measured with reference to some standard, whose reflection coefficient is known. Compressed white powders and magnesium oxide coatings have commonly been employed as such standards, but recently increasing use has been made of opal (milky) glass, produced and sold under the designation MS-14 (MC-14). The advantages and some of the characteristics of MS-14 glass as a reflection standard are discussed in the present paper. Among its advantages is stability in time. Measurements of samples over a period of two and a half years showed no noticeable change in the reflection. In view of variations in founding technology and the raw materials there is some scatter of the reflection characteristics of MS-14 produced at different times (from different batches). By

Card 1/2

ACCESSION NR: AP4035483

now there have been established two grades, as determined by measurement against a permanent master standard, which has a reflection coefficient of 93.5% for radiation from a source with a color temperature of 3000°K. According to specifications, grade I MS-14 glass should have a reflection coefficient of 96%; grade II a coefficient of 96% (for all wavelengths in the visible region). Measurements by the authors showed, however, that the coefficients of different samples, from batches founded at different times, vary in the range of 4%. Hence, where high accuracy is important, grade I should be specified in ordering. Other measurements in the 0.8 to 2.3 μ region indicate the MS-14 glass can also be used as a standard in the near infrared. Other suitable materials for this purpose are opaque pyroceramics (reflection versus infrared wavelength curves are shown for several different samples of MS-14 glass and two pyroceramics Abstracter's note: no designation or specifications given). "L.I.Pavlova, A.M.Nikiticheva and N.N.Novopl'skiy participated in the measurements of the reflection coefficients of the MS-14 glass samples and pyroceramics; the authors take this opportunity to thank them." Orig.art.has: 2 figures.

ASSOCIATION: none

SUBMITTED: 06Jul63

SUB CODE: OP

DATE ACQ: 22May64

NR REF SOV: 002

ENCL: 00

OTHER: 000

Card 2/2

PETROV, G.L., kand.tekhn.nauk; SMOLKIN, S.Sh., inzh.

Relation between thickness tolerances and the relative weight
of electrode coatings. Svar.proizv. no.9:32-35 S '60.
(MIRA 13:8)

1. Leningradskiy politekhnicheskoy institut im. M.I.Kalinina.
(Electrodes)

L 38752-66 ENT(1)/ENT(M)/1/ENT(F) DJ/AM/JW
ACC NR: AP6024818 SOURCE CODE: UR/0096/66/000/008/0043/0047

AUTHOR: Gel'man, L. I. (Candidate of technical sciences ; Smolkin, Yu. V. (Engineer)
; deceased)
ORG: Central steam turbine institute (Tsentralnyy kotloturbinnyy institut)

TITLE: Thermodynamic calculation of a gas turbine unit using an electronic digital
computer

SOURCE: Teploenergetika, no. 8, 1966, 43-47

TOPIC TAGS: gas turbine, turbine design, closed cycle gas turbine, thermodynamic
calculation, entropy

ABSTRACT: A computer method was developed for calculating the optimum thermodynamic
design of a closed-cycle gas turbine unit using nitrogen as the working fluid.
Emphasis was placed on the real properties of the gas. Procedures for calculating
the final temperature after isentropic expansion and the enthalpy are given.
Calculations were made for inlet pressures of 2-10 Mn/m², at a turbine inlet
temperature of 1073.16K and a compressor inlet temperature of 298.16K. Plots were
obtained for the variation in the internal work as a function of the inlet pressure
and expansion ratio, and the variation in the compressor temperature gradient as a
function of the turbine inlet pressure. It was shown that at an expansion ratio of
2.5, the internal efficiency at a turbine inlet pressure of 10 Mn/m² is 2.81%
higher than that of an ideal gas. At a ratio of 5.5, it is only 1.48% higher.
It is concluded that an allowance for the real-gas properties at turbine inlet

UDC: 621.438.681.142.35:001.24

Card 1/2

L. 38782-56
ACC NR: AP6024818

pressures higher than 2 Mn/m² is necessary when nitrogen is used as the working medium. [PV]

SUB CODE: 13,20/SUBM DATE: none/ ORIG REF: 002/ OTH REF: 001/

Card

2/2 ~~AD~~

S/169/63/000/002/030/127
D263/D307

AUTHOR: Smolkina, T. I.

TITLE: A method for the determination of radioactive iodine in air

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1963, 20, abstract 2B139 (Sb. rabot po nekotorym vopr. dozimetrii i radiometrii ionizir. izlucheniya. Vyp. 2, M., Gosatomizdat, 1961, 146-149)

TEXT: To measure the iodine concentration in atmospheric air the author recommends suction of air through two successive filters: an aerosol $\phi\parallel$ (FP) filter and an alkaline filter. The latter is prepared from $\phi\parallel\parallel-15$ (FPP-15) fabric moistened with 10% alcoholic KOH and dried at room temperature. The cloth is supported on plexiglass. Molecular iodine is collected on the alkaline filter with an efficiency of 70 - 90%, for air-filtering speeds of 10 - 40 cm/sec or 12 - 48 l/min over 20 cm². If radioactive bromine is absent from the air, the activity of this filter is due only to

Card 1/2

A method for the ...

S/169/63/000/002/030/127
D263/D307

iodine. A detailed description is given of a radiochemical method for the separation of iodine from the aerosol filter, including a description of the equipment and the necessary chemicals. [Abstracter's note: Complete translation.]

Card 2/2

S/169/62/000/003/066/098
D228/D301

AUTHOR: Smolkina, T. I.
TITLE: Thunderstorm conditions near Leningrad according to
radar observations at Stn. Voyeykovo for 1958-1959
PERIODICAL: Referativnyy zhurnal, Geofizika, no. 3, 1962, 31, ab-
stract 3B252 (Tr. Gl. geofiz. observ., no. 120, 1961,
15-26) ✓
TEXT: Data of the processing of visual observations at the storm-
announcement station for 1958-1959 are given in the paper together
with charts compiled for the relative frequency of showers and
thunderstorms near Leningrad over the same period. [Abstracter's
note: Complete translation.]

Card 1/1

KOTOV, N.F.; SMOLKINA, T.I.

Maps of the anomalies of shower activity in Leningrad Province.
(MIRA 16:2)
Trudy GGO no.128:35-56 '62.
(Leningrad Province—Rain and rainfall)
(Leningrad Province—Meteorology—Charts, diagrams, etc.)

L 45578-65 EWT(m)/EWP(t)/EWP(b) Feb DIAAP/IJP(c) JD/DM

ACCESSION NR: AP5009130

S/0089/65/018/003/0298/0299

14
B

AUTHOR: Smolkina, T. I.; Chubakov, A. A.

19

TITLE: Investigation of sorption of radioactive iodine by activated charcoal and study of the form of gaseous iodine in air

SOURCE: Atomnaya energiya, v. 18, no. 3, 1965, 298-299

TOPIC TAGS: radioactive ²¹iodine, activated charcoal, charcoal filtering, gaseous iodine, iodine sorption

ABSTRACT: The sorption by BAU charcoal of gaseous iodine from an irradiated reactor fuel element heated to 900--1000C carried by an air current with a speed of 20 cm/sec was investigated. The radioactive iodine concentration was 10⁻⁹--10⁻¹¹ Curie/liter. The results showed that a 10 cm layer of BAU charcoal can reduce the concentration of radioactive iodine in air by a factor of ~ 500. The results have confirmed the hypothesis that iodine in the gas phase can have two or more forms, either as a pure element or a compound. By using caustic potash filters and filters treated with AgNO₃ solution it was found that the compounds present in the

Card 1/2

L 45578-65

ACCESSION NR: AP5009130

gas include iodides, iodates, and possibly mixtures of several compounds in which iodine has positive valence. Sublimation of I^{131} from irradiated metallic tellurium also disclosed not less than two forms of iodine. The effect of the fuel-element temperature on the relative content of the different iodine forms is discussed. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 14Aug63

ENCL: 00

SUB CODE: NP

NR REF SOV: 002

OTHER: 006

am
Card 2/2

SMOLKINA, I.I.; CHIBANOV, A.S.

Absorption of radioactive iodine by activated carbon and the forms
in which gaseous iodine occurs in the air. Atom. energ. 18 no.3:
298-299. Mar 1965. (MIRA 18:3)

FA 51T32

SMOLKO, A. I.

USSR/Geology
Rock Formation

21 Mar 1948

"Continental Neogen Deposits of Kara Kum and Kyzyl Kum," A. I. Smolko, 2 $\frac{1}{2}$ pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LIX, No 9

Regression of the ancient seas was beginning of the Continental age in the eastern parts of Kara Kum and in Kyzyl Kum. Study of these regions will permit full understanding of geologic history of even central Asia. Briefly outlines some of the geologic studies made on this area in recent years. Submitted by Academician D. V. Malivkin, 23 Jan 1948.

51T32

SMOLKO, A.I.; RADYUR'EVICH, N.M.; VIKHANSKIY, G.N.

Tectonics of the Neogene sheet of the northwestern Kara Kum in
connection with oil and gas prospecting. Trudy VSEGEI 42:85-103
'60. (MIRA 14:9)
(Kara Kum--Petroleum geology) (Kara Kum--Gas, Natural--Geology)

SMOIKO, A.I.

Tectonic ~~and history of the development of the relief of the~~ Krasno-
vodsk Peninsula. Trudy VSEGET 46:76-89 '61. (MIRA 14:11)
(Krasnovodsk Peninsula--Geology, Structural)

L 21284-66 EWT(d)/EWP(1) IJP(c) BB/GG

ACC NR: AP6007517

SOURCE CODE: UR/0109/66/011/002/0357/0360

AUTHOR: Smolko, G. G.; Osipov, V. V.; Stafeyev, V. I.

35
B

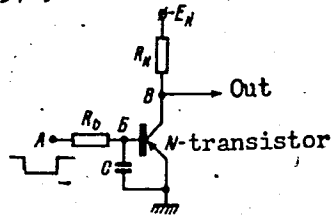
ORG: none

TITLE: Converter of the pulse height or duration into a sequence of pulses 166

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 357-360

TOPIC TAGS: pulse converter, analog digital converter

ABSTRACT: A simple circuit (see figure) containing an N-transistor for converting pulse height or duration in a sequence of pulses is suggested. The number of output pulses is given by: $n = \tau (U - U_0) / (U_1 - U_0) R_0 C$, where U and τ are the height and duration of the input pulse; U_1 and U_0 are switching-threshold and after-switching voltages, respectively. Conversion of the duration into pulse sequence is strictly linear; height into sequence, slightly nonlinear. Oscillograms taken on an experimental hookup are shown. Orig. art. has: 3 figures and 1 formula.



SUB CODE: 09 / SUBM DATE: 04Jun65 / ORIG REF: 002 / ATD PRESS: 4/2/8

[03]

Card 1/1 *dlr*

UDC: 621.374.38

L 31642-65

ACCESSION NR: AP5002910

S/0109/65/010/001/0147/0156

AUTHOR: Popova, M. V.; Smolko, G. G.; Garyainov, S. A.; Stafeyev, V. I.

TITLE: Static characteristics of N-transistors

9
B

SOURCE: Radiotekhnika i elektronika, v. 10, no. 1, 1965, 147-156

TOPIC TAGS: transistor, N-transistor

ABSTRACT: A detailed exploration of the characteristics of an N-transistor (proposed by V. I. Stafeyev, et al., Rad. i elektronika, 1962, 7, 8, 1404) reveals that this device is kindred to the n-p-n-p transistor. Static input and output characteristics of N-transistors for common-base, common-emitter, and common-collector circuits are described. The input characteristics are voltage-ambiguous (S-type); the output characteristics in the common-base and common-emitter circuits are current-ambiguous (N-type); in the common-collector circuit, the characteristics are practically single-valued. Experimentally

Card 1/2

L 31042-65

ACCESSION NR: AP5002910

determined families of characteristics of diffusion-alloy N-transistors are presented. Orig. art. has: 8 figures.

ASSOCIATION: Fiziko-tehnicheskiy institut AN SSSR (Physico-Technical Institute, AN SSSR)

SUBMITTED: 09Sep63

ENCL: 00

SUB CODE: EC

NO REF SOV: 002

OTHER: 002

Card 2/2

L 60879-65

ACCESSION NR: AP5020126

UR/0109/65/010/008/1480/1485
621.382.333.4

AUTHOR: Smolko, G. G.; Osipov, V. V.; Stafeyev, V. I.; Garyainov, S. A.; Popova,
M. V. ¹⁰_B

TITLE: N-transistors as active circuit elements

SOURCE: Radiotekhnika i elektronika, v. 10, no. 8, 1965, 1480-1485

TOPIC TAGS: N transistor, common emitter circuit, p n p n junction, p n p n transistor

ABSTRACT: A description is given of the use of N-transistors in common-emitter circuits. Applications include switching circuits, converters, pulse generators, and flip-flops. The transistor has a p-n-p-n structure between emitter and base, so that its input volt-ampere characteristics are of the S type (see Fig. 1 of the Enclosure). The low value of the switching voltage depends on the collector current and varies within 0.2—2 v. The output volt-ampere characteristic (Fig. 2) shows a sharp decrease in negative resistance with increase in bias. Voltage required for maximum current does not exceed 0.2 v; collector current can reach 30—50 mamp. Within a wide range of collector voltages, minimum collector current is in tens of microamperes. Orig. art. has: 10 figures. [DW]

Card 1/4

L 60879-65

ACCESSION NR: AP5020126

0

ASSOCIATION: none

SUBMITTED: 11May64

ENCL: 02

SUB CODE: EC

NO REF SOV: 002

OTHER: 000

ATD PRESS: 4063

Card 2/4

L 60879-65

ACCESSION NR: AP5020126

ENCLOSURE: 01

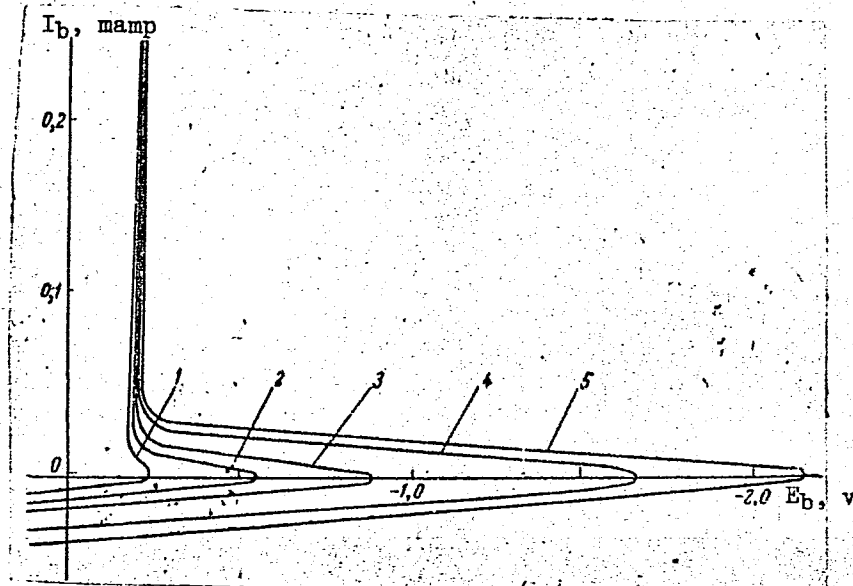


Fig. 1. Input characteristics at various collector currents ($T = 20.5^\circ\text{C}$)

- 1 - 0.02 mamp;
- 2 - 0.03 mamp;
- 3 - 0.05 mamp;
- 4 - 0.08 mamp;
- 5 - 0.1 mamp.

Card 3 / 4

L 60879-65

ACCESSION NR: AP5020126

ENCLOSURE: 02

0

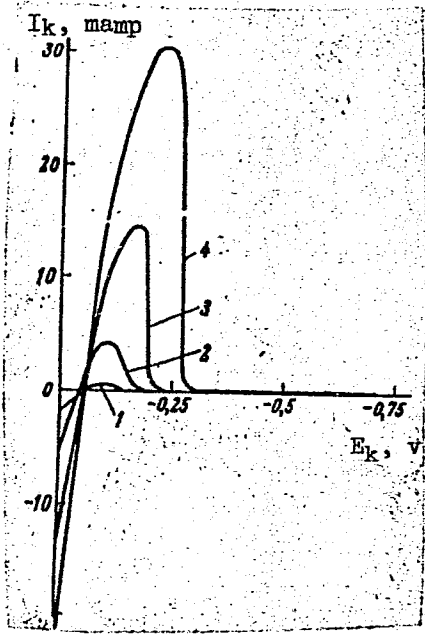


Fig. 2. Output characteristics at various base biases

- 1 - -0.25 v; 2 - -0.3 v;
- 3 - -0.35 v; 4 - -0.4 v.

Card *jlk*
4/16

ZUYEV, V.A., kand.tekhn.nauk; SMOL'KO, I.O., inzh.

Using electric loading equipment for removing silage from pit
and trench silos. Mekh. i elek. sots. sel'khoz. 19 no.6:23-25
'61. (MIRA 14:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut elektrifikatsii
sel'skogo khozyaystva.

(Ensilage)

(Electricity in agriculture)

ZUYEV, V.A., kand.tekhn.nauk; SMOL'KO, I.O., inzh.

Use of electrically powered machinery for hauling silage out of
pits and trenches. Nauch. trudy VIESKH 11:66-80 '62. (MIRA 16:3)
(Ensilage--Transportation)

SMOLKO, Milan

Role of the epiphysis (pineal gland) in psychiatry. Cesk.
psychiat. 55 no.5:349-353 0 '59.

1. Psychiatricke oddelenie KUNZ Presov v Licartovciach.
(PINEAL BODY)
(MENTAL DISORDERS)

SMOLKO, Milan

Certain relationships between electric shock therapy and prognosis.
Cesk.psychiat.56 no.5:310-313 0'60.

1. Psychiatricke oddelenie KUNZ Presov v Licartovciach.
(SHOCK THERAPY ELECTRIC)

CZECHOSLOVAKIA

SMOLKO, M.; Department of Psychiatry (Psychiatricke oddelenie) Licartovce.

"Hormones of the Epiphysis (Glandula Pinealis.)"

Prague, Activitas Nervosa Superior, Vol 5, No 3, July 63; pp 304-307.

Abstract: Review of published work of the last 5 years: melatonin, antigonadotropic and antiandrogenic factors; adrenoglomerulotropic and other poorly defined principles of the pineal gland. Structural formulae; 1 Polish, 2 Czech, 3 Rumanian, 15 Western mostly European references.

1/1

17

L 29498-66

ACC NR: AP6020012

SOURCE CODE: CZ/0079/65/007/003/0297/0297

AUTHOR: Balaz, J. (Trencin); Smolko, M.; Tocik, V.

23
B

ORG: Otorhinolaryngological and Psychiatric Department, District Health Center, Trencin

TITLE: Treatment of severe stuttering with large doses of neuroleptics [This paper was presented at the 7th Annual Psychopharmacological Meeting, Jesenik, 20-23 January 1965.]

SOURCE: Activitas nervosa superior, v. 7, no. 3, 1965, 297

TOPIC TAGS: psychotherapy, psychoneurotic disorder

ABSTRACT: Complex treatment with neuroleptics combined with individual or group therapy can be successful where logopedic exercises by themselves do not help. Even patients with an inferior intellect can respond favorably to such a treatment. 4 cases treated by the authors confirm this hypothesis. [Orig. art. in Eng.] [JPRS]

SUB CODE: 06 / SUM DATE: none

Card 1/1 LS

SMOLKO, S.S.

Acroptilon picris (FALL.) C.A.M. in Ukrainian Polesye, Ukr.
bot. zhur. 21 no.4:104 '64. (MIRA 17:11)

1. Otdel vysshikh rasteniy Instituta botaniki AN UkrSSR.

BARBARICH, A.I. [Barbarych, A.I.], kand. biol. nauk; BRADIS, Ye.M.,
doktor biol. nauk; VISYULINA, O.D., doktor biol. nauk;
VOLODCHENKO, V.S.; DOBROCHAYEVA, D.M., kand. biol. nauk;
KARNAUKH, Ye.D.; KATINA, Z.F., kand. biol. nauk; KOTOV,
M.I., doktor biol. nauk; KUZNETSOVA, G.O. [Kuznetsova, H.O.],
kand. biol. nauk; OLYANITSKOVA, L.G. [Olianits'ka, L.H.];
OMEL'CHUK, T.Ya., kand. biol. nauk; POYARKOVA, O.M.;
PROKUDIN, Yu.M., doktor biol. nauk; PROTOFOPOVA, V.V.;
SLYUSARENKO, L.N.; SMOLKO, S.S.; KHRZHANOVSKIY, V.G.
[Khrzhanovs'kyi, V.H.], doktor biol. nauk; ZEROV, D.K.
akademik, otv. red., ONISHCHENKO, L.I., red.

[Key for the identification of plants in the Ukraine] Vyz-
nachnyk roslyn Ukrainy. Vyd.2., vypr. i dop. Kyiv, Urozhai,
1965. 876 p. (MIRA 18:9)

1. Akademiya nauk URSR, Kiev. Instytut botaniky. 2. AN Ukr.SSR
(for Zerov). 3. Moskovskaya sel'skokhozyaystvennaya akademiya
im. K.A.Timiryazeva (for Khrzhanovskiy).

SECRET, T. 7.

USSR/Astronomy - Photography

Jan/Feb 52

"Photographic Film Color-Sensitive in Visual Spectrum," A. V. Borin, B. Ya. Martynov, T. I. Smolko, Astron Obs imeni Engelgardt, Res Lab of Glavkinoplenka

"Astron Zhur" Vol XXIV, No 1, pp 5-13

Film samples were tested and numerated 1-5, 1 for excessive sensitivity to blue-violet, 3 for satisfactory sensitivity to all colors, 5 for excessive sensitivity to red. Plots results in sensitivity curves as compared to sensitivity of human eye and tabulates in relation to photographic emulsion compn. Presents curves of photographic intensity of stars as compared to photovisual intensity. Indebted to A. F. Torondzhadze, N. Ye. Yemel'yanko, and V. A. Kolychev. Rec'd 10 Nov 51.

202T2

AUTHORS: Shneydman, Ya.A., Smolko, T.I. . SOV/77-3-6-12/15

TITLE: The Stability of the Latent Image in the Light-Sensitive Layer of Certain Domestic Films for Motion Pictures and Photography (Stabil'nost' skrytogo izobrazheniya v svetochuvstvitel'nom sloye nekotorykh otechestvennykh kinofotoplenok)

PERIODICAL: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, 1958, Vol 3, Nr 6, pp 469-471 (USSR)

ABSTRACT: Deterioration of the latent image in the light-sensitive layer of the following Soviet films was studied: 1) infrachromatic I-760 film; 2) panchromatic film; 3) negative film V; 4) negative film AM; 5) negative film MZ; 6) positive film MZ. The study also included correlations between stability and conservability of the photographic properties of unexposed films under natural storing conditions, optical sensibilization, size of the emulsion grains, etc. A film was cut into two halves and each resulting strand again cut into several small strips. The first half was exposed in the FSR-4 sensitometer. The second half was kept unexposed, and strip by strip - at determined intervals - exposed in the FSR-4 sensitometer over the course of one year. Each strip was compared with an analogous part of the first half, to determine its photo-

Card 1/2

SOV/77-3-6-12/15

The Stability of the Latent Image in the Light-Sensitive Layer of Certain Domestic Films for Motion Pictures and Photography

graphical characteristics in accordance with GOST 2817-50. This included light sensitivity, contrast coefficient and sensibilization. With respect to the stability of the latent image, I-760 (Graph 1) was first, followed by negative film V (Graph 2), panchromatic film (Graph 3), negative film AM (Graph 4), negative film MZ (Graph 5), and positive film MZ (Graph 6). Increase of the grain size of the emulsion layer yielded a greater stability of the latent image (Graph 7). There are 7 graphs and 3 Soviet references.

ASSOCIATION: Kazan', Fabrika Kinoplenki (Kazan', the Motion Picture Film Factory)

Card 2/2

BOLEKOV, A.I.; BOLEKOV, B.I.

Standard evaluation of articles of an accessory production.
Standartizatsiia 28 no.8:30-31 Ag '64.

(MIRA 17:11)

1. SMOL'KOV, B.M.
- 2/ USSR (600)
4. Grinding and Polishing
7. Use of electric spindles on groove-grinding machines. Podshipnik no. 10, 52

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

SMOL'KOV, B.M.

Development and dissemination of working drawings make
according to machinery standards. Standartizatsiia 27 no.3:
46-47 Mr '63. (MIRA 16:4)

(Machinery--Drawing)

SMOL'KOV, B.N.

Conference on standardization at the Middle Volga Economic
Council. Standartizatsiia 28 no. 147 J1 '64. (MIRA 17:11)

L 04895-67 EWT(1) GW/GD
ACC NR: AT6027226

SOURCE CODE: UR/0000/66/000/000/0204/0211

AUTHOR: Smol'kov, G. Ya.

ORG: none

TITLE: Possible means of determining the magnetic field in the solar corona

SOURCE: AN SSSR. Sibirskoye otdeleniye. Sibirskiy institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln. Issledovaniya po geomagnetizmu i aeronomii (Studies in geomagnetism and aeronomy). Moscow Izd-vo Nauka, 1966, 204-211

TOPIC TAGS: solar corona, solar magnetic field, solar activity

ABSTRACT: A survey is given of literature that deals with the determination of the magnetic field in the solar corona. Precise knowledge of this field would make it possible to solve problems associated with the study of active solar regions, solar activity, and its effect on the planet earth. It is pointed out that efforts to determine the magnitude of the magnetic field from an analysis of radio-frequency radiation have not been successful due to the difficulties involved in the observations and the interpretation of their results. The methods examined make use of the effects produced by the magnetic field and of the phenomena associated with the corona. These are primarily radioastronomical methods based on measuring

Card 1/2

26
24
B+1

L 44154-66 EWT(1) GW/GD

ACC NR: AT6027227

SOURCE CODE: UR/0000/66/000/000/0212/0219

AUTHOR: Smol'kov, G. Ya.

53
BT1

ORG: none

TITLE: Evaluation of conditions for using the photoelectric method to measure the magnetic field in the solar corona

SOURCE: AN SSSR. Sibirskoye otdeleniye. Sibirskiy institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln. Issledovaniya po geomagnetizmu i aeronomii (Studies in geomagnetism and aeronomy). Moscow Izd-vo Nauka, 1966, 212-219

TOPIC TAGS: solar activity, solar corona, solar magnetic field, photoelectric detection, *photoelectric method, photomultiplier, photo meter, photosphere*

ABSTRACT: The possibility of using the photoelectric method to measure the magnetic field in the active zones of the solar corona is considered. For this purpose, the most intensive emission line of the corona $\lambda = 5303 \text{ \AA}$ is used. Calculation is made of the complete Zeeman's splitting pattern, which amounts to $2.2 \cdot 10^{-5} \text{ H \AA}$. If the intensity of the green line in the active zone for the epoch of minimum solar activity is accepted as being of the order of $100 \text{ erg/cm}^2 \times \text{sec} \times \text{ster \AA}$, then the flux through the exit slit of the spectograph is equal to 10^{-8} lm/\AA . The amplitude of the variable component of the flux at the entrance of magnetograph is of the order of 10^{-13} lm/g s. By using photomultipliers of high sensitivity ($10^3 - 10^4 \text{ a/lm}$), a signal

Card 1/2

L 44154-66

ACC NR: A6027227

of the order of 1 mv can be obtained at the exit of the differential photometer. During calculations comparison is made with the conditions of measurement of the magnetic field in the photosphere. Thus, it is shown that, in principle, the photoelectric method can be used for the measurement of the magnetic field in the solar corona. Orig. art. has: 3 figures and 31 formulas. [JJ]

SUB CODE: 03, 09/ SUBM DATE: 25Dec65/ ORIG REF: 017.

hs

Card 2/2

GUBAREV, M.I., inzh.; SMOL'KOV, I.V., inzh.

The CVS blower-type orchard sprayer. Trakt. i sel'khozmash.
33 no.11:38 N 163. (MIRA 1979)

1. Gosudarstvennoye spetsial'noye konstruktorskoye byuro po
masinam dlya khimicheskoy zashchity rasteniy.

SMOL'KOV, N.A.

Function of the accumulation $M = f(t)$ in diffusion and biosynthesis.
Biofizika 6 no.3:284-287 '61. (MIRA 14:6)

1. Moskovskaya veterinarnaya akademiya, Ministerstvo sel'skogo
khozyaystva RSFSR, Kuz'minki.
(IODINE—ISOTOPES) (THYROID GLAND)
(BIOMATHEMATICS)

RUSSIAN, U.S.A.

- 7-3 ENGLISH, V. I. Radiovolny i magnetizm (Radio Waves and Magnetism). Moscow, Izd-vo Moskovskogo Universiteta, 1950. 13p. DIF 10765.558; OMB No. 113-A (1955-A).

This abstract describes the functions of the Laboratory of Electromagnetism of the Faculty of Physics of Moscow University. The laboratory was established in 1918 by V.K. Arkad'ev who was its permanent director until recently. The field of research of this laboratory includes: Magnetodynamics, magnetic spectroscopy, physical characteristics of magnetic materials, production of short electromagnetic waves, methods of recording Hertz's waves on paper, passage of microwaves through translucent material. Names of prominent Soviet physicists who have worked in this laboratory are listed.

SMOL'KOV, N. A.

Magnetism

Ferromagnetic resonance, a Russian discovery. Elektrichestvo No. 5, 1952.

Monthly List of Russian Accessions, Library of Congress November 1952 UNCLASSIFIED

SMOLKOV, N. A.

wireless Engineer
June 1954
Materials and Subsidiary Techniques

*Sci Res Inst Physics,
Moscow State Univ.*

(2) 4
Ferromagnetic Resonance of Nickel-Zinc Ferrites.
E. I. Kondorski & N. A. Smol'kov. (C. R. Acad. Sci. U.R.S.S., 11th Nov. 1953, Vol. 93, No. 2, pp. 237-240. In Russian.) The relaxation times and g-factors of three ferrites were calculated from results of an experimental determination of the real and imaginary components of the magnetic permeability and the dielectric constant at wavelengths of 3.2 and 8.6 cm with the sample placed in a steady magnetic field. The experimental method is described. Results are tabulated and, for one ferrite, shown graphically.

[Handwritten signature]
10/4/54

USSR/Physics

Card 1/1 Pub. 43 - 9/15

Authors : Smol'kov, N. A.

Title : ~~Study of the Faraday effect in ferrites over cm-waves~~
Study of the Faraday effect in ferrites over cm-waves

Periodical : Izv. AN SSSR. Ser. fiz. 18/3, 378-381, May-Jun 1954

Abstract : The method employed in studying the Faraday effect by means of cm-waves was found to be analogous to the method applied in optics. Instead of using polarization prisms (as in optics) in the role of polarizers and analyzers the cm-wave method employs rectangular wave guides and the investigated sample is placed in a round wave-guide placed in a solenoid. During the Faraday effect in ferrites one can observe a surface effect in front of the resonance zone. The angle of rotation of the polarization surface changes its sign during resonance. The plus sign corresponds to a dextro-polarized wave and the minus sign to a levo-polarized wave. Four references : 2 USSR and 2 USA (1935-1953). Graphs; drawings.

Institution : The M. V. Lomonosov State University, Moscow

Submitted : May 3, 1954

SMOL'KOV, N. A.

Physics Faculty

Effect of barium oxide on some properties of ferrite. N. A. Smol'kov and E. V. Talalaya (M.V. Lomonosov State Univ., Moscow). *Fiz. Metal. i Metalloved., Akad. Nauk S.S.S.R., Ural. Filial* 1, 417-19(1955).--in prep. ferrites for industrial use (as mineral magnets), BaO, CaO, and other metallic oxides are often added to the solid soln. Such oxides are themselves not magnetic nor is the solid soln. they form with Fe₂O₃ magnetic. How these addns. affect the magnetic properties of the original ferrite (in this instance, NiMg(1 - δ)Fe₂O₃) is illustrated by the addn. of 0, 5, 10, 15, and 20 parts by wt. in 100 (the parameter δ being the same in all 5) to preps. made ceramically by sintering Fe₂O₃, MgO, NiO, and BaO at 1300° for 4 hrs. The magnetic properties measured were: magnetization; initial and max. permeabilities (μ_i and μ_{max}); magnetostriction; and rotation of the plane of polarization. In all cases the magnetic properties decrease with increasing concn. of BaO.

2

V. H. Gottschalk

MOL'KOV, N. H.

Phys
Physics Faculty

~~Magnetostriction and Goldhammer-Thomson effect in certain ferrites. N. A. Golovay (M. V. Lomonosov State Univ., Moscow). *Met. Anal. Metalloved., Akad. Nauk S.S.S.R., Ural. Filial* 2, No. 1, 10-16 (1958).~~ Longitudinal and transverse magnetostriction of ferrite plates composed of $NiCd_{1-x}FeO_4$ and $NiFe_2O_4-MgFe_2O_4$, made by sintering oxide powders at 1300° for 5 hrs., were measured with wire tensimeters and a bridge using a solenoid for producing magnetic field for the 1st and an electromagnet for Ni-Mg ferrite. For both these ferrites the longitudinal magnetostriction is neg., and the transverse one pos. On approaching magnetic satn., the longitudinal magnetostriction of $NiFe_2O_4$ ferrite becomes twice as large as the transverse one, and in case of the other ferrite about 3 times as large, the abs. values decreasing with the concn. of $MgFe_2O_4$, which may be related to the lowering of the Curie point from 585° to 325° on passing from Ni to Mg ferrites. Magnetostriction decreases here from -25.8×10^{-4} to -5.3×10^{-4} . The effect of the outside magnetic field on elec. resistance of these ferrites is given as curves, being neg. in both directions. The presence of Fe_2O_3 in solid soln. lowers their elec. resistance and, accordingly, deteriorates the material for high-frequency applications.

16000

S. M. J. G. H.

S. MOLKOV, N. A.

5
AE2C

Dimension resonance connected with the Faraday effect in ferrites (S. A. Smolkov, N. N. Morozov, and V. E. Sidorov, *Vestnik Moskov. Univ., Ser. Mat., Mekh., Astron., Fiz. i Khim.*, 11, No. 2, 89-94 (1966); cf. Brockman, *et al.*, *Phys. Rev.* 77, 85 (1960)).—Dimension, or volume, resonance of some ferrites (e.g. Mn Zn ferrite) is a consequence of their high magnetic and dielec. permeabilities, which cause the wave length in a ferrite sample to be comparable with its linear dimensions, at a primary frequency ranging from 10^8 to 10^{10} cycles. The volume resonance gives rise to distortions of the rotation angle δ of the plane of polarization as a function of the external magnetic field H_0 . Investigated was the influence of the sample length l on the dimension resonance at frequency of 9370 megacycles in Ni Mg ferrites with small ZnO additives. Whereas 2 cylindrical samples, approx. 5.7 cm. long, 0.5 cm. in diam., with 0 and with 1% ZnO, did not show an appreciable volume resonance, in a sample with 3% ZnO δ decreased with l of the sample, and the resonance was shifted toward higher H_0 . The ellipticity of the sample with 1% ZnO amounted to 35 decibels from 0 to 1000 oersteds. With a strong volume resonance, there are 2 min. of the ellipticity curve: the first appears at the volume, the 2nd at the ferromagnetic, resonance.

E. Ryshkewitch

Chirg Magnetism

Bl R

SMOL'KOV, N.A.

24(3)
Authors

2'yakov, S.P., Candidate of Physical-Mathematical Sciences. 05/7/55-10-20-12/55

Survey of Papers Read by Scientists of Moscow University at the All-Union Congress on the Physics of Magnetic Materials (Obzor dokladov ucheynoy i nauchnoy promyshlennoy laboratoriy i na vsesoyuznyy s'ezhdantshi po fizike magnitnykh materialov) [astronomii, fiziki, khimii, 1958, Nr. 2, 21-27, 31-32 (USSR)]

From December 6 - 11, 1957 there took place the fourth Union Congress on Physics of magnetic materials in Leningrad. (The first two meetings took place in 1946 and 1951 in Dzerzhinsk, the third meeting 1956 in Moscow). The congress was organized by the Academy of Sciences of the USSR, Department of Physical-Mathematical Sciences, Scientific Council on Fundamental Problems of Magnetism, Institute for Semiconductors of the Academy of Sciences, USSR and Committee for Magnetism. There were more than 500 participants, 50 lectures were given, among them the following lectures of the representatives of the Moscow State University:

- 1. Professor N.Y. Tolstunin, I.P. Kuritsyna, Lecturer on the Velocity of Magnetic Waves, G. M. Perdomonidze
- 2. Professor N.Y. Tolstunin, N. N. Mal'golina, Assistant
- 3. Professor N.Y. Tolstunin, I.P. Kuritsyna, Assistant
- 4. N.Y. Degt'yar, Lecturer "Variations of Structure and Antiferromagnetic Properties of NiFe₂O₄".

- 5. M.A. Embovskiy, Lecturer, S.Ku. Brodskaya, Junior Scientific Assistant, "Magnetic Properties of Antiferromagnetic Stones"
- 6. G.M. 2'yakov, Lecturer "Magnetization Properties of Ferrites"

- 7. Plochy and V.I. Kondratskiy, L.F. Sobolev, Assistant "Electric Properties of Ni₂Sn-Ferrites"
- 8. N.Z. Kiryasov, Senior Scientific Assistant, A.P. Parozov, Assistant "Magnetic Properties and Structure of Manganese-Boron-Alloys"

- 9. M.A. Smol'kov, Senior Scientific Assistant, S.P. 2'akov "Magnetic Properties of Ferrites"
- 10. M.A. Smol'kov, Senior Scientific Assistant, V.Kh. Ginzburg, Lecturer "Properties of Ni Fe₂O₄ - Ni Fe₂O₄"

- 11. M.A. Smol'kov and Ye. Z. Formozov, Engineer "Properties of Ferrites with High-Resistivity Additives"
- 12. Professor E. P. Belov, I.P. Kuritsyna, Lecturer, G.M. Mal'gina, Lecturer, and M.A. Smol'kov, Junior Scientific Assistant "Ferrites with Compensation Points"

- 13. E.P. Belov, Ye. Z. Formozov, Assistant "Electrical and Dielectric Properties of the Manganese Ferrites"
- 14. M.A. Smol'kov, Junior Scientific Assistant, A.P. Parozov, Assistant "Production of Manganese Ferrites"

- 15. Professor L.F. Sobolev, A.P. Parozov, Junior Scientific Assistant "On Alloys with Compensation Points of Ferrimagnetic Alloys Near the Absolute Zero of Temperature"

The Participants of the meeting visited a laboratory of the Institute of Semiconductors of the Academy of Sciences of the USSR (Professor S.M. Zhuravskiy). The meeting was presided by Professor G.M. Mal'gina. Corresponding Faculty of the Academy of Sciences named with the name of the following persons: Degree Awarded for

- 1. Magnetic Resonance and Other Magnetic Effects in Insulators
- 2. Paramagnetic Resonance in Solids
- 3. Structure of the Ferrimagnetic and Antiferromagnetic States

24(3)

AUTHORS: Smol'kov, N.A., and Belov, V.P.

SOV/55-58-4-17/31

TITLE: Investigation of the Ferrite Properties for Pulse Conditions
(Issledovaniye svoystv ferritov v impul'snom rezhime)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya
1958, Nr 4, pp 147-154 (USSR)

ABSTRACT. The authors investigated the temperature dependence of the impulse characteristics of the magnesium-manganese ferrite and the copper-manganese ferrite, used in the technical cybernetics for the construction of "magnetic memory". It was stated that for a change of temperature from -196°C to $+140^{\circ}\text{C}$ there appears a narrowing and a diminution of the hysteresis loop of a ferrite core. For an increasing temperature, the time of magnetic polarity reversal and the threshold field H_c (compare Kittel [Ref 10]) become smaller too. The authors thank Professor Ye. I. Korotorskiy for the discussion of the results. There are 6 figures, and 12 references, 1 of which is Soviet, 1 German, and 10 American.

ASSOCIATION: Kafedra magnetizma (Chair of Magnetism)

SUBMITTED: October 19, 1957
Card 1/1

24(3)

AUTHORS: Smol'kov, N.A., and Dovba, S.A.

SOV/55-58-4-18/31

TITLE: Properties of the Ferrites $(\text{Li}_2\text{O} \cdot 0.5\text{Fe}_2\text{O}_3)_{1-x} \cdot (\text{CdFe}_2\text{O}_4)_x$
(Svoystva ferritov $(\text{Li}_2\text{O} \cdot 0.5\text{Fe}_2\text{O}_3)_{1-x} \cdot (\text{CdFe}_2\text{O}_4)_x$)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, fiziki, astronomii, fiziki, khimii, 1958, Nr 4, pp 100-102

ABSTRACT: The present paper is devoted to the investigation of several properties of the solid solution $(\text{Li}_2\text{O} \cdot 0.5\text{Fe}_2\text{O}_3)_{1-x} \cdot (\text{CdFe}_2\text{O}_4)_x$. The parameter x changes from 0 to 0.7. Using partly the method described in [Ref 15, 16] it is stated experimentally that for an increasing concentration of the Cd-ferrite the specific electrical resistance, the Curie-point T_c , and the coercive force H_c diminish, while the initial- and the maximal susceptibility as well as the maximal and remaining induction enlarge. The angle of rotation of the plane of polarization depends in a

Card 1/2

Properties of the Ferrites $(Li_{2-0.5Fe_2O_3})_{1-x} \cdot (CdFe_2O_4)_x$ SOV/55-89-4-18/31

complicated manner on the composition of the solid solution.
The authors thank Professor Ye.I.Kondorskiy for advice.
There are 8 figures, 1 table, and 16 references, 6 of which
are Soviet, 5 American, 2 German, 2 English, and 1 Irish.

ASSOCIATION: Kafedra magnetizma (Chair of Magnetism)

SUBMITTED: November 5, 1957

Card 2/2

24(3)

AUTHORS: Smol'kov, N.A., and Belov, V.F.

SOV/55-58-4-19/51

TITLE: Magnetic Properties of the Solid Solution in the System
 $Mg Fe_2O_4 - Mn Fe_2O_4$ (Magnitnyye svoystva tverdykh rastvorov v
sisteme $Mg Fe_2O_4 - Mn Fe_2O_4$)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1958, Nr 4, pp 163-170 (USSR)

ABSTRACT: The author investigates statistical magnetic, and high-frequency properties of several ferrites $Mg Fe_2O_4 - Mn Fe_2O_4$. If the roasting of the ferrites takes place in an inert medium, then the susceptibility and the remaining magnetic induction decreases, while the coercive force increases if the content of Mn-ferrite increases. The rotation angle of the plane of polarization increases quicker than the damping if the content of Mn-ferrite is little. The authors thank Professor Ye.I.Kondorskiy for valuable advices.
There are 9 mappings and 7 references, 3 of which are Soviet, and 4 American.

ASSOCIATION: Kafedra magnetizma (Chair of Magnetism)

SUBMITTED: November 28, 1957

Card 1/1