BORMOTOV, P.N., inzh.; GRISHIN, S.S.; ANTIPOV, Yu.; VITRIK, E.V., inzh.; KOSAREV, P.S.; NEKHOROSHEV, A.I.; RYABTSEV, G.I.; KOTOV, S.F.; SHABAGIN, M.A., gornospasatel' (Komi ASSR, g. Ukhta)

On P.M. Solvev'ev's article "Improve the design of the SP-55M self-rescuers." Bezop.truda v prom. 6 no.7:9-11 Jl '62. (MIRA 15:7)

1. Tekhnicheskoye upravleniye Kombinata ugol'nykh predpriyatiy Kuznetskogo kamennougol'nogo basseyna (for Bormotov). 2. Master shakhty im. Lenina Makeyevskogo tresta ugol'noy promyshlennosti Donbassa (for Grishin). 3. Komandir vzvoda voyenizirovannoy gornospassatel'noy chasti, pos.Zarubino, Novgorodskoy oblasti (for Antipov). 4. Shakhta No.24, Lubanskaya oblast' (for Vitrik). 5. Zaveduyushchiy gornymi rabotammi Nikitovskogo dolomitnogo kombinata (for Kosarev). 6. Komandir otdeleniya No.8 VGSO, g. Shakhty, Rostovskaya obl. (for Nekhoroshev). 7. Komandir gornospasatel'nogo otdeleniya, g. Shakhtersk, Donetskaya obl. (for Ryabtsev). 8. Zamestitel' glavnogo inzh. shakhty No.29 "Kapital'naya" Chelyabinskogo kombinata ugol'nykh predpriyatiy Ministerstva ugol'noy promyshlennosti SSSR (for Kotov).

(Respirators) (Solovev, P.M.)

VITRIK, S.P. [Vitryk, S.P.]; DOLENKO, G.N. [Dolenko, H.N.]; RIPUN, M.B. [Rypun, M.B.]

Sheshorskiy horizon in the Dolina oil field. Dop. AN URSR no.1:72-75 '59. (MIRA 12:3)

1. Institut geologii poleznykh iskopayemykh AN USSR. Predstavil akademik AN USSR V.B. Porfir'yev [V.B. Porfie'iev].
(Dolina District--Geology, Stratigraphic)

AZHOGIN, G...; ..., A.V.; VITYUK, S.P.; GRIGORENKO, V.V.; ..., A.N.; ..., V.I.; SHUMSKIY, N.I.

Prospecting for gas in the western regions of the Ukraine. Gaz.delo. 10 no.5:6-9 '65. (MIRA 18:6)

VITRIK, S.P.; PALIY, A.M.; MAKOVSKIY, S.A.

New data on the commercial investigation of the Khodnovichi gas field. Neft. i gaz. prom. 3:3-5 Jl-S '65.
(MIRA 18:11)

SOV-21-58-9-21/29

AUTHORS: Vitrik, S.P., Dolenko, G.N. and Ripun, M.B.

TITLE: On the Greenish-Grey Argillites of the Lower Menilite Series of the Dolina Oil-Field (O zelenovato-serykh argillitakh nizhnemenilitovoy svity na ploshchadi Doliny)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1958, Nr 9, pp 996 - 998 (USSR)

ABSTRACT: During the past few years, much deep drilling has been carried out in the Dolina area in prospecting for oil-bearing paleogene deposits. Among the strata crossed by the prospecting wells there are 2 layers of greenish-grey argillites in the Lower menilite series. These argillites were already mentioned by V.A. Shakin and V.V. Glushko [Ref.1] as one of the rocks in the series. However, their importance is higher, as they can be used as marker beds in the menilite series for this area. According to electrocoring data, these layers are characterized by low resistance and low gamma-activity. In a lithological respect, these layers consist mainly of hydro-micaceous-argillaceous rocks (argillites) and siltstones. Argillites differ from other rocks of the lower menilite series by the low content of siliceous minerals, humous organic substances and by the high content of ferro-

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On the Greenish-Grey Argillites of the Lower Menilite Series of the Dolina Oil-Field

dolomite and pyrite. These properties manifest themselves in the apparent, reduced electric resistance of the rocks. These two layers of greenish-grey argillites can be of value for structural schemes and for a correct choice of the direction of prospecting. There are 2 Soviet references

ASSOCIATION: Institut geologii poleznykh iskopayemykh AN UkrSSR (Institute of Geology of Mineral Resources of the AS UkrSSR)

PRESENTED: By Member of the AS UkrSSR, V.B. Porfir'yev

SUBMITTED: March 24, 1958

NOTE: Russian title and Russian names of individuals and institutions appearing in this article have been used in the transliteration.

1. Geophysical prospecting--USSR 2. Petroleum--Geology

VITRIK, S.P. [Vitryk, S.P.]; DOLENKO, G.N. [Dolenko, H.N.]; RIPUN, M.B. [Rypun, M.B.]

Greenish-grey argillites in the lower Menilite series of the Dolina field. Dop.AN URSR no.9:995-998 '58. (MIRA 11:11)

1. Institut geologii poleznykh iskopayemykh AN USSR. Predstavil akademik AN USSR V.B.Porfir'yev [V.B.Porfir'iev].
(Dolina--Geology, Stratigraphic)

3(8)

SOV/21-59-1-19/26

AUTHORS: Vitrik, S.P., Dolenko, G.N., and Ripun, M.B.

TITLE: On the Shashor Horizon of the Dolina Oil Field. (O Sheshorskom gorizonte na ploshchadi Doliny)

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 1, pp 72-75 (USSR)

ABSTRACT: The chemical and physical characteristics of the components of the Sheshor horizon, found by the authors for the first time in the Dolina Oil field (the Carpathians) are described. The horizon is 20-25 meters deep, and contains, from the top downward, black argillites, sandstones, marls and sandstones, dolomitized rocks, dolomites, and grey-green calceous argillites. The large quantity of ankerite and pyrite present in the rocks, show the intensive decomposition of organic matter, which was possible during the drying-up of the upper Eocene sea, and its succeeding quick

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On the Shashor Horizon of the Dolina Oil Field

fill-in at the end of the deposition of the Shashor horizon.

ASSOCIATION: Institut geologii poleznykh iskopayemykh AN UkrSSR (Institute of the Geology of Mineral Resources, AS UKrSSR)

PRESENTED: July 28, 1958, by V.B. Porfir'yev, Member of the AS UkrSSR

BROD, I.O.; VITRIK, S.P.; GORDIYEVICH, V.A.; KLITOCHENKO, I.F.; KOSOROTOV, S.P.; PALIY, A.M.; POPOV, V.S.

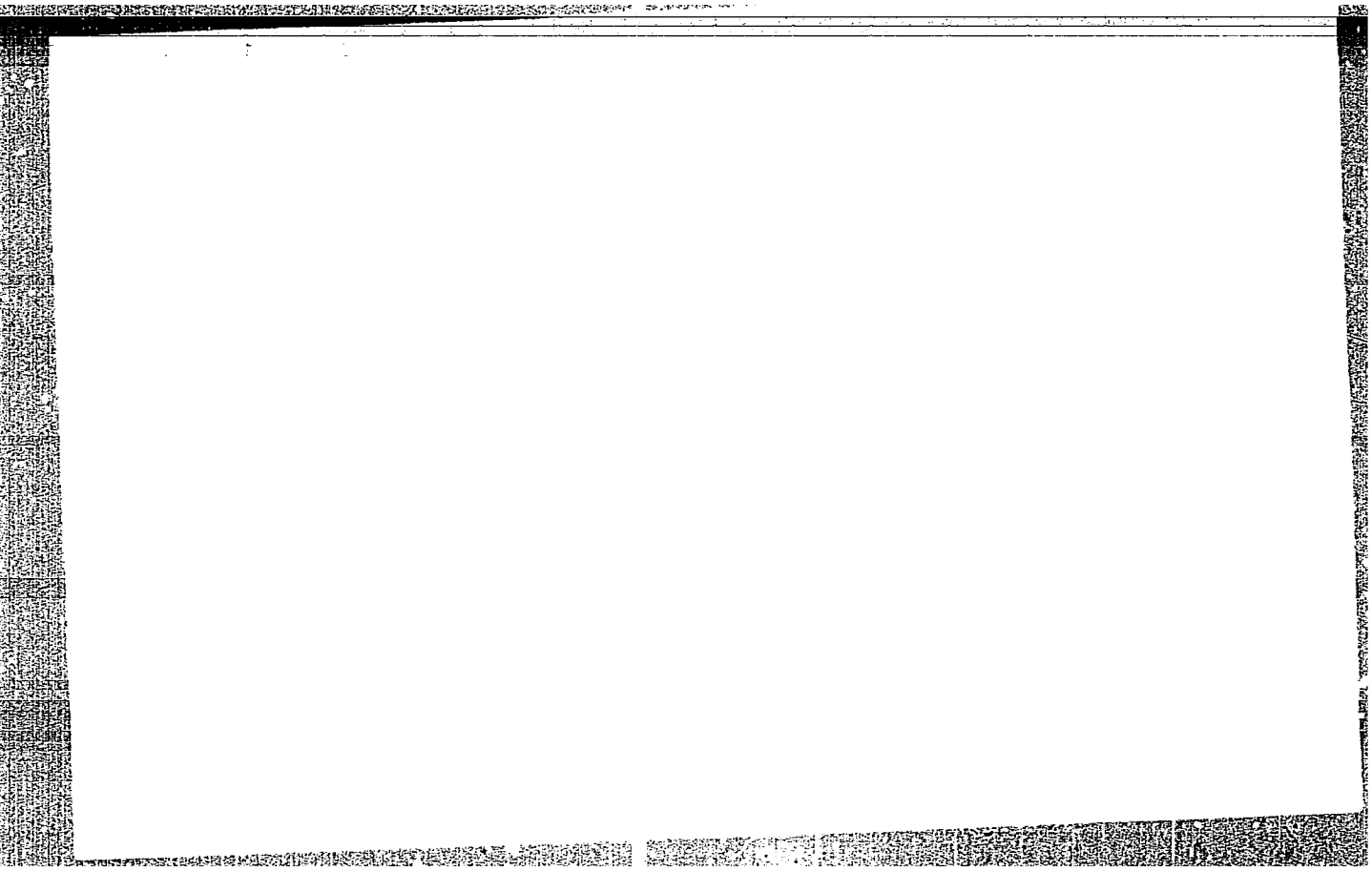
Evaluating the results and the measures for improving prospecting for oil and gas fields in the Ukraine. Geol.neft i gaza 6 no.10:1-12 O '62. (MIRA 15:12)

1.Glavnoye upravleniye geologii i okhrany nedr pri Sovete Ministrov UkrSSR, Ministerstvo geologii i okhrany nedr SSSR i Moskovskiy gosudarstvennyy universitet.
(Ukraine--Petroleum geology)
(Ukraine--Gas, Natural--Geology)

VITRIK, S.P. [Vitryk, S.P.]; DOLENKO, G.N. [Dolenko, H.N.]; YAROSH, B.I.

Tectonics and the oil potential of the Dolina field. Pratsi Inst. geol. kor. kop. AN URSR 3:56-64 '61. (MIRA 16:7)

(Dolina region (Stanislav Province)—Petroleum geology)



APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001860120019-3"

DOLENKO, G.N.; VITRIK, S.P.

Profile of menilitic deposits of the Dolina structure. Geol. zhur. 16 no.2:65-69 '56. (MLRA 9:9)

(Dolina--Opals) (Dolina--Petroleum geology)

VYALOV, O.S., akademik; DABAGYAN, N.V. [Dabahian, N.V.]; VITRIK, S.P. [Vitryk, S.P.]; SHAKIN, V.A.

"Svalyava 1" a deep borehole in the Pieniny (Cliff) zone of the Carpathians. Dop. AN URSR no.5:631-635 '63. (MIRA 17:9)

1. Institut geologii goryuchikh iskopayemykh AN UkrSSR.
2. AN UkrSSR (for Vyalov).

YAROSH, B.I.; YAROSH, Ye.N.; VITRIK, S.P.; KHRIPTA, I.I.; KOSTYUK, O.I.

Features of the geological structure and oil and gas potential of the Kokhanovka-Svidnitsa oil field. Neftegaz. geol. i geofiz. no.6:3-8 '64. (MIRA 17:8)

1. Institut goryuchikh iskopayemykh AN UkrSSR, Ukrainskiy nauchno-issledovatel'skiy geologorazvedochnyy institut i trest "L'vovneftegazrazvedka".

VITRIK, S.P.; UTROBIN, V.N.

Types of the structures and forms of gas fields in the fringe zone of the cis-Carpathian region. Sov. geol. 7 no.8:136-142 Ag '64. (MIRA 17:10)

1. Trest "L'vovnefterazvedka."

VYTRYKHOVS'KYY, M.I.

S/185/60/005/003/013/020
D274/D303

9,4160
26.2421

26598

AUTHORS: Vytrykhovs'kyy, M.I. and Mizets'ka, I.B.

TITLE: Spectral characteristics of mixed ZnS·CdS single crystals

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 5, no. 3, 1960, 415-416

TEXT: The obtaining of mixed ZnS·CdS single crystals is described, as well as their physical characteristics. In literature there are no methods for the growth of single crystals of such a composition. For obtaining the single crystals, the authors used a method of synthesis from the vapor phase. Mixed single crystals of different component-ratio and average size 15 x 2 x 0.04 mm were obtained. After the crystallization process, the crystals were divided into separate groups and their chemical composition, crystalline structure and spectral characteristics were studied. The crystals can be divided, according to their shape, into three groups. The chem-

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Spectral characteristics... 26598

ical composition was determined by polarographic method. X-ray investigations of the crystals showed that they have a hexagonal lattice and that they constitute a continuous array of solid substantial solutions. The spectral distribution of the photocurrent was studied on the crystals. The specific dark resistance was measured in the range of 10^{10} to 10^{13} Ohm/cm. The ratio between photocurrent and dark current was, at the spectral-distribution maximum, 10 - 10^2, and for some specimens 10^3. A figure is given with the photocurrent as a function of wavelength λ for pure ZnS and CdS (which were obtained by the same method), as well as for mixed ZnS·CdS single crystals. It is evident from the figure that the selective photocurrent-maximum of the mixed crystals shifts gradually, with increasing ZnS percentage, into the short-wave region of the spectrum. For all the investigated specimens, a sharp maximum of the photocurrent is observed at the long-wave edge of eigenabsorption. The sharp drop of the photocurrent for $\lambda > \lambda_m$ can be explained by lower absorption coefficient and absence of impurities; λ_m is the wavelength corresponding to the

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maximum). For $\lambda < \lambda_{max}$, the drop in photocurrent is much less pronounced. Such a behavior of the photocurrent in the short-wave region is quite unusual and deserves a detailed study. The width of the forbidden zone, calculated with respect to the position of the maximum, changes monotonically with the composition of the crystals. The obtained new single-crystals lead to a gradual shifting of the photocurrent-maximum over a wide range of wavelength, from 3400 - 5100 Å. There are 1 figure and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Henderson, Proc. Roy. Soc., 173 A, 323, 1959.

Vitrikhovskiy, N.I.

PHASE I BOOK EXPLOITATION SOV/4966

Soveshchaniye po poluprovodnikovym materialam. Moscow, 1957

Voprosy metallurgii i fiziki poluprovodnikov; trudy 3-go soveshchaniya. (Problems in the Metallurgy and Physics of Semiconductors; Transactions of the Third Conference) Moscow, Izd-vo AN SSSR, 1959. 129 p. Errata slip inserted. 3,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova. Resp. Ed.: N. Kh. Abrikosov, Doctor of Chemical Sciences; Ed. of Publishing House: P. F. Zolotov.

PURPOSE: This collection is intended for technical and scientific personnel concerned with the investigation and production of semiconductor materials. It may also be used by students in schools of metallurgy.

COVERAGE: The collection contains reports submitted at the Third Conference on Semiconductor Materials, held at the Institute of Metallurgy imeni A. A. Baykov, AS USSR, Moscow, in May 1957. The reports deal with problems of obtaining and investigating germanium, silicon, and semiconductor compounds. The collection was first edited by D. A. Petrov, Doctor of Technical Sciences. References accompany most of the reports.

AVAILABLE: Library of Congress

JP/dfk/os
3/30/61

Card 5/5

VITRIKHOVSKIY, N.I.; MIZETSKAYA, I.B.

Production of mixed single crystals of CdS.CdSe from the vapor phase and some of their characteristics. Fiz. tver. tela 1 no.3: 397-402 Mr '59. (MIRA 12:5)

1. Institut fiziki AN USSR, Kiyev.
(Photoelectricity) (Cadium sulfide crystals)
(Cadmium selenide crystals)

VITRIKHOVSKIY, N.I.; MIZETSKAYA, I.B.

Production of mixed single crystals of CdS·CdTe and some of their characteristics. Fiz. tver. tela 1 no.6:996-999 Je '59. (MIRA 12:10)

1.Institut fiziki AN USSR, g.Kiyev.
(Cadmium sulfide crystals) (Cadmium telluride crystals)

VITRIKHOVSKIY, N.I. [Vytrykhovs'kyi,M.I.]; MIZETSKAYA, I.B. [Mizets'ka, I.B.]

Spectral characteristics of mixed single crystals of ZnS, CdS. Ukr.fiz.zhur. 5 no.3:415-416 My-Je '60. (MIRA 13:8)
(Zinc sulfide--Spectra) (Cadmium sulfide--Spectra)

9.4160 (3201, 1105, 1137)
26.2421

S/181/60/002/010/036/051
B019/B056

AUTHORS: Vitrikhovskiy, N. I. and Mizetskaya, I. B.

TITLE: The Compounded ZnS.CdS Single Crystals and Some of Their Characteristics

PERIODICAL: Fizika tverdogo tela, 1960, Vol. 2, No. 10, pp. 2579 - 2584

TEXT: The authors investigated the production possibilities of compounded ZnS.CdS single crystals with different compositions and studied some of their physical properties. First, the experimental arrangement and the investigation of the chemical compositions are discussed. The spectral distribution of the photocurrent was determined. Fig. 3 graphically shows the results obtained for six different compositions. The resistivity of all samples was within the range 10^{10} - 10^{13} ohm.cm. Fig. 3 graphically shows the dependence of the forbidden band width on the composition. The authors finally state that for the purpose of breeding compounded ZnS.CdS single crystals, the selection of optimum synthesis conditions, which, on the one hand warrant uniform crystal structure of

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The Compounded ZnS.CdS Single Crystals and Some of Their Characteristics

S/181/60/002/010/036/051
B019/B056

both components and, on the other, the simultaneous crystallization of ZnS and CdS is of decisive importance. The ZnS·CdS single crystals thus bred have a structure similar to that of CdS single crystals. In the present paper, a new semiconductor-single crystal is, thus, described, in the case of which by changing its composition, the maximum of the photocurrent may be selected within the range 5100 - 3400 A (Fig.3). This single crystal has a hexagonal structure. The authors thank V. Ye. Lashkarev, Academician of the AS UkrSSR, for his valuable advice, and Engineers L. I. Datsenko and M. S. Kopytina for their X-ray examination of the samples. There are 4 figures, 2 tables, and 13 references: 4 Soviet, 3 US, 3 German, 1 British, and 1 Swiss.

ASSOCIATION: Institut fiziki AN USSR Kiyev (Institute of Physics of the AS UkrSSR, Kiyev)

SUBMITTED: February 1, 1960

Card 2/2

30538

S/564/61/003/000/009/029
D207/D304

24,2600 (1043, 1147, 1114)

AUTHORS: Vitrikhovskiy, N. I., and Mizetskaya, I. B.

TITLE: Growing mixed monocrystals of CdS·CdSe and CdS·CdTe type by crystallization from the vapor phase, and some of their properties

SOURCE: Akademiya nauk SSSR. Institut kristallografii. Rost kristallov, v. 3, 1961, 345–350

TEXT: The authors deal with the techniques of preparing ternary semiconducting monocrystals CdS·CdSe, CdS·CdTe, and CdSe·CdTe, as well as "hybrids" with a common anion and different cations, such as ZnS·CdS . The listed crystals make it possible to obtain a gradual shift of photoconductivity maximum from 3300 Å (pure ZnS) to 8400 Å (CdTe). The range from 3300 to 5100 Å is covered by ZnS·CdS, from 5100 to 7200 Å by CdS·CdSe, and from 7200 to 8400 Å by CdS·CdTe . The chemical compositions

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Growing mixed monocrystals...

of prepared CdS·CdSe powder and monocrystals differed from the compositions of initial mixtures of CdS and Se; this was due to incomplete substitution of sulphur by selenium in the powder and to different vapor pressures and rates of thermal dissociation of CdS and CdSe in monocrystals. CdS·CdSe powder and monocrystals had a hexagonal wurtzite structure, and monocrystals were substitutional solid solutions miscible in any ratio of the components. Measurements of photoconductive response spectra of CdS·CdSe monocrystals with a ЗМР (ZMR) monochromator showed that with the increase of CdSe the photocurrent maximum shifted towards longer wavelengths and the photocurrent magnitude fell less rapidly with wavelength. The photocurrent-maximum shift was directly proportional to the wavelength, while the electron energy gap was inversely proportional to the wavelength. The photocurrent maximum was the same for each batch of CdS·CdSe monocrystals. The resistivity of monocrystals of various compositions ranged from 10^8 to 10^{10} ohm·cm, compared with 10^{10} ohm·cm for polycrystalline films. The photosensitivity of monocrystals ranged from 0.0003 to 0.008 amp/lumen. volt,

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S/564/61/003/000/009/029
D207/D304

with up to 0.2 amp/lumen. volt in the best samples; this was much higher than the almost negligible photosensitivity of polycrystalline films. As regards the CdS·CdTe system, actual compositions of monocrystals were not the same as the compositions of initial CdS + Te mixtures. Monocrystals were deposited on a quartz screen at 740 - 830°C in the form of thin needles, plates, and six-sided pyramids of reddish orange color; the largest monocrystals reached 2.0 x 0.6 x 0.02 cm in size. CdS·CdTe monocrystals had hexagonal wurtzite structure with a = 4.13 and c = 6.79 Å. The maximum amount of Te which could be introduced into the CdS lattice was about 2%. With an increase of CdTe in CdS·CdTe monocrystals, the photocurrent maximum shifted towards longer wavelengths. The integral photosensitivity of CdS·CdTe monocrystals was of the same order as that of pure CdS. The resistivity of CdS·CdTe varied from 10^7 to 10^{10} ohm·cm. The photocurrent maxima of ZnS·CdS monocrystals occurred within the interval 5100 - 3400 Å; the maximum shifted towards shorter wavelengths with increase of ZnS content. The resistivity of these monocrystals was of the order of 10^{14} ohm·cm, which is similar to

the value for pure ZnS monocrystals. As regards the CdSe·CdTe system, the authors were able to prepare crystals in which the photocurrent maximum ranged from 7200 Å (pure CdSe) to 8400 Å (pure CdTe). This range of wavelengths may be used to produce photoresistors. Further work on these crystals is proceeding. Acknowledgments are made to V. E. Lashkarev, Member of AS UkrSSR, for his advice and to L. I. Dotsenko [Abstracter's note: Referred to elsewhere in text as Datsenko] for X-ray structure determinations. There are 5 figures, 2 tables and 2 Soviet-bloc references.

23129
S/181/61/003/005/034/042
B125/B202

24.7100 (1153, 1142, 1160)

AUTHORS: Vitrikhovskiy, N. I. and Mizetskaya, I. B.

TITLE: Effect of growing conditions on some physical properties of the mixed single crystals CdS·CdSe

PERIODICAL: Fizika tverdogo tela, v. 3, no. 5, 1961, 1581-1586

TEXT: The authors attempted to produce large CdS·CdSe single crystals and to compare some of their properties with those of thin single crystals of approximately the same composition. The single crystals (CdS·CdSe) were grown by the sublimation method described earlier (N. I. Vitrikhovskiy, I. B. Mizetskaya. FTT, I. 397, 1959). With different growing conditions (temperature, pressure of saturated vapor, rate of flow of the rare gas, and other factors) crystals of different shapes were obtained: plates, prisms, twins, and needles. At present large crystals of binary compounds are grown by crystallization from a solution as well as by sublimation. The powdery product which was obtained by a previous mixing of the original components CdS and CdSe and by a two-hour heating of the mixture at 900°C in argon atmosphere was sublimated. From the photographs of the ground sections, it

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Effect of growing conditions ...

may be seen that the cross section of the single crystals increases as the growing temperature increases. The length of the single crystals is proportional to the duration of crystallization. At ~1230°C the crystals have the shape of intergrown blocks. According to their crystallization temperature all CdS·CdSe single crystals grown by the authors may be divided into three main types: I): thin crystals are formed between 760 and 1000°C, medium dimensions 5·15·0.02 mm^3; II): large crystals are formed at ~1150°C, medium dimensions 6·12·6 mm^3; III): large single crystals, bred at~1230°C, medium dimensions 3·10·4 mm^3. The majority of the optically complete single crystals was observed among the crystals of types I and III. All three types belong to the hexagonal Wurtzite type. Photoconductivity: the spectral distribution of photoconductivity was measured in single crystals of all three types. The compositions of the initial mixtures and of their corresponding single crystals are given in a Table.

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Effect of growing conditions ...

Thick and thin specimens differ with respect ot the spectral behavior of the photocurrent in the region $\lambda < \lambda_m$ of the strong absorption of light and also with respect to the position of maximum photocurrent on the scale of the wavelengths. In large single crystals the maximum photocurrent is more distinct than in thin specimens. The relaxation time of the photocurrent was determined from the duration $\tau_{10\%}$ of the initial 10% decrease of the photocurrent after the darking of the specimen. In type I $\tau_{10\%}$ was 10^{-2} to $5 \cdot 10^{-3}$ sec after illumination with approximately 10^{13} quanta/cm^2·sec. It was considerably higher than in the types II and III ($< 10^{-3}$ sec). Temperature and duration of breeding obviously have a strong influence on the deviations from the stoichiometric composition, the recombination processes in the single crystals, and their surfaces. Discussion of the results: single crystals are grown from the vapor phase. Single crystals of type I may form at the beginning of the process within very short time intervals. One part of these crystals is evaporated already before the end of the process, the other is subject to heat treatment during the whole period. A third part of the crystals grown toward the end of the process does not withstand a long-lasting heat treatment. For this reason also

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Effect of growing conditions ...

homogeneous crystals have different conductivities ($\sigma_T \sim 10^{-8}$ to 10^{-10} ohm·cm^{-1}) and properties. Large single crystals are formed on longer duration of growing, at higher temperatures (T~1150 to 1220°C) (thin crystals at T = 700 to 1000°C), and at high pressures of the saturated vapors of the components of the initial substance. Type II grows much more slowly than type I. Besides, large single crystals grow without direct contact with the vapors of the original substance. According to experiments, crystals of type II are formed simultaneously. They also grow under similar conditions. Hence, their physical properties are bound to be more homogeneous.
The authors thank V. Ye. Lashkarev, Member of the Academy of Sciences of the UkrSSR for valuable advice. There are 4 figures, 1 table, and 15 references: 5 Soviet-bloc and 10 non-Soviet-bloc. The most recent references to English-language publications read as follows: Sumiaki Ibuki, J. Phys. Soc. Japan, 14, 9, 1181, 1959; J. Woods, British J. Appl. Phys., 10, 12, 529, 1959.

Card 4/5

Effect of growing conditions ...

ASSOCIATION: Institut poluprovodnikov AN USSR Kiyev (Institute of Semiconductors of the Academy of Sciences UkrSSR, Kiyev)

SUBMITTED: December 9, 1960

(1) Состав исходных смесей и кристаллов смешанного типа CdS · CdSe

(2) Состав исходных смесей, %		(3) Состав кристаллов типа I, %		(4) Состав кристаллов типа II, %		(5) Состав кристаллов типа III, %	
CdS	CdSe	CdS	CdSe	CdS	CdSe	CdS	CdSe
100	—	100	—	100	—	100	—
75	25	78	22	76	24	75	25
50	50	67	33	57	43	53	47
25	75	54	46	32	68	26	74
—	100	—	100	—	100	—	100

Legend to the Table: (1) Composition of the initial mixture and the crystals of the mixed type CdS·CdSe; (2) composition of the initial mixtures, %; (3) composition of the crystals of type I, %; (4) composition of the crystals of type II, %; (5) composition of the crystals of type III, %.

Card 5/5

28104
S/181/61/003/009/038/039
B108/B138

26.253

AUTHORS: Brodin, M. S., Vitrikhovskiy, N. I., Strashnikova, M. I.

TITLE: Structure of the spectra of $CdS_x.CdSe_{1-x}$ and $CdS_x.ZnS_{1-x}$ hybrid crystals at 20°K

PERIODICAL: Fizika tverdogo tela, v. 3, no. 9, 1961, 2882-2885

TEXT: Ye. F. Gross and V. V. Sobolev (DAN SSSR, 133, 56, 1960) have shown that the emission spectrum of CdS-CdSe solid solutions at low temperatures bears the same character as the CdS spectrum. V. V. Yeremenko (FTT, II, 2602, 1960) studied the low-temperature absorption spectra of $CdS_x.CdSe_{1-x}$ hybrids but could not find any fine structure, apparently because he did not have sufficiently thin specimens at his disposal. In order to elucidate this problem, and to obtain data on the character of the excitation in pure crystals the authors studied 10 - 20μ thick hexagonal CdS-CdSe and CdS-ZnS hybrids. The back-reflection spectra were taker by means of a Hilger-E2 spectrograph. Photomicrographs of such spectra

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Structure of the spectra of CdS_x ...

taken at a temperature of 20°K from CdS, $CdS_{0.95}.CdSe_{0.05}$, and $CdS_{0.94}ZnS_{0.06}$ single crystals are shown in the Figure (a, b, and c, respectively). It was found that the absorption spectrum of any CdSe.CdS hybrid has a fine structure. The bands 1 and 2 in the figure are shifted to the longwave side by about 60 cm^{-1} when the CdSe concentration in CdS rises by one percent by weight, whereas the band 3 is shifted only by about 30 cm^{-1}. The back reflection in polarized light indicates that the absorption of $CdS_x.CdSe_{1-x}$ has a distinct dichroism: The IC absorption edge is shifted to longer waves. The $CdS_x.CdSe_{1-x}$ hybrids exhibit an inversion point of the refractive index at which the crystal foils are not birefringent. The back-reflection and, consequently, the absorption spectra of $CdS_x.ZnS_{1-x}$ hybrids are very similar to those of pure CdS, particularly when the ZnS concentration is low. When the ZnS concentration is higher than about 20%, the back reflection bands become more and more blurred. This phenomenon is explained by the interference bands arising when the rays are reflected in the transparent region from both the front and the back surface of the

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crystal foil. The argument that the crystal is inhomogeneous is not justified since then interference bands could never exist. The difference in the band shift with concentration is explained as follows: The optical electrons of CdS responsible for the bands 1 and 2 in the valence band are preferably connected with the Cd ion, the electron causing the band no. 3, however, with the S ion. There are 1 figure and 8 references: 5 Soviet and 3 non-Soviet. The two references to English-language publications read as follows: S. Y. Czyzak et al., J. Opt. Soc., 47, 240, 1957. D. G. Thomas, Y. Y. Hopfield. Phys. Rev., 116, 573, 1959.

ASSOCIATION: Institute fiziki AN USSR (Physics Institute of the AS UkrSSR) Institut poluprovodnikov AN USSR Kiyev (Semiconductor Institute of the AS UkrSSR Kiyev)

SUBMITTED: May 22, 1961

VITYKHOVSKYY M I

37193
S/185/62/007/004/017/018
D407/D301

9.6150
9.5310

AUTHOR: Vytrykhovs'kyy, M. I.

TITLE: Infrared transmission spectra of CdS-type single crystals

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 4, 1962, 445-446

TEXT: The infrared transmission spectra of $CdS_x \cdot CdSe_{1-x}$ crystals are investigated, and the magnitude of the absorption coefficient is estimated. The CdS, $CdS_x \cdot CdSe_{1-x}$, and CdSe single crystals were grown from the vapor phase by a method given in the references. The results of the investigations of CdS, $CdS_{0.5} \cdot CdSe_{0.5}$, and CdSe specimens are shown in a figure. For all the materials, the dependence of the transmission $T(\lambda)$ on wavelength λ was practically the same (for

Card 1/4

Infrared transmission...

λ ranging between 1 and 14 μ). The eigenabsorption edges for the single crystals were close to 5200, 6400, and 7200 Å respectively. $T(\lambda)$ varies little in the wavelength interval from 2 to 14 μ; it decreases considerably for wavelengths exceeding 14 μ (in the case of CdS) and exceeding 15 μ (in the case of CdSe). The absorption coefficient was calculated by the formula

$$K(\lambda) = \frac{\ln I_1(\lambda) - \ln I_2(\lambda)}{d_2 - d_1}, \qquad (1)$$

where $K(\lambda)$ is the absorption coefficient, I_1 and I_2 are the intensities of the light which passed through specimens with thickness d_1 and d_2 respectively. The reflection coefficient was estimated by the formula

Card 2/4

Infrared transmission...

$$1 = R(\lambda') + K(\lambda) + T(\lambda) , \qquad (2)$$

where $R(\lambda)$, $K(\lambda')$, and $T(\lambda)$ are the coefficients of reflection, of absorption, and of transmission for given specimen thickness. The mean value of $R(\lambda)$ obtained by this formula was approximately 0.3 for $CdS_{0.5}$, $CdSe_{0.5}$. It is noted that the appreciable oxygen concentration in CdS-type single crystals affects the coefficients $K(\lambda)$ and $T(\lambda)$. The impurity concentration in the single crystals was low and did not affect the transmission. The CdS_x, CdSe single crystals are relatively soft. It is reasonable to assume that CdS, CdS_x, $CdSe_{1-x}$, and CdSe single crystals can be used, not only as detectors of α -, β -, γ-, X-ray and visible radiation, but also as prisms and slots for the infrared region of the spectrum. There are 1 figure and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The references to the English-language publications read as follows: D. C. Reynolds, S. J. Czyzak, R. C. Allen, C. C.

Card 3/4

Reynolds, J. Opt. Soc. Am., 45, 136, 1955; S. J. Czyzak, W. M. Baker, R. C. Crane, J. B. Howe, J. Opt. Soc. Am., 47, 240, 1957; Arthur B. Francis and Allen J. Carlson, J. Opt. Soc. Am., 50, 118, 1960; R. H. Bube, S. M. Thomson, J. Chem. Phys., 23, 15, 1955.

ASSOCIATION: Instytut napivprovidnykiv AN URSR (Institute of Semiconductors of the AS UkrRSR), Kyyiv

SUBMITTED: September 14, 1961

Card 4/4

Anomalous Azbel-Kaner resonance effect in lead telluride.
A. Kobayasi (20 minutes).

Chemico-analytical methods of determination of micro-impurities in doped monocrystals of the type $A^{II}B^{VI}$. I. B. Mizetskaya, L. M. Kalashnik, O. P. Kulik, I. G. Chernyy.

Doping of cubic monocrystals of CdS in the process of their growth and some physical characteristics of the resulting samples.
N. I. Vitrikhovskiy, I. B. Mizetskaya.

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

sky, N. ...

TITLE: Electron paramagnetic resonance of Mn^{++} in CdS

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2756-2761

TOPIC TAGS: manganese, cadmium sulfide, electron paramagnetic resonance, spectrometry

...
Mn^{++} in CdS did not take into account ... did not lead to an ex-
... absorption spectrum, ... the cubic field and ...

L 6827-65

ACCESSION NR: AP4044950

5

[illegible] operating in the 3 cm band. The

and a cubic [illegible] crystal field was de-

L 6977-65

ACCESSION NR: AP4044950

ASSOCIATION: Institut poluprovodnikov AN UkrSSR, Kiev (Institute of Semiconductors, AN UkrSSR)

SUBMITTED: 09Apr64 ENCL: 00

SUB CODE: EP, MT

Card 3/3

KURIK, M.V. [Kuryk, M.V.]; GAVALESHKO, M.P. [Havaleshko, M.P.]; VITRIKHOVSKIY, M.I. [Vytrykhovs'kyi, M.I.]

Magnetic susceptibility of CdS single crystals. Ukr. fiz. zhur. 9 no.11:1216-1220 N '64 (MIRA 18:1)

1. Institut fiziki AN UkrSSR, Institut poluprovodnikov AN UkrSSR, Kiyev, i Chernovitskiy gosudarstvennyy universitet.

L 6809-65 EWT(l)/EWT(m)/EWP(q)/EWP(b) IJP(c)/AS(mp)-2/ASD(a)-5/AFWL/
RAEM(t)/BSD/ESD(gs)/ESD(t)/AFTM(t) JD

ACCESSION NR: AP4044644 S/0048/64/028/008/1316/1317

AUTHOR: Vitrikhovskiy, N.I.; Mizetskaya, I.B.

TITLE: Doping of large cadmium sulfide crystals in the process of growth and some physical properties of the resultant specimens /Report, Third All-Union Conference on Semiconductor Compounds held in Kishinev 16-21 Sep 1963/

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v.28, no.8, 1964, 1316-1317

TOPIC TAGS: cadmium sulfide, single crystal, doping, semiconductor conductivity, light absorption

ABSTRACT: Single crystals of CdS doped with Cu, Ag, Au or In were grown by sublimation from powdered CdS in a manner described elsewhere by the authors (Fiz.tverdogo tela 3,3581,1961) and their electrical conductivities and light absorption were measured. The initial powdered CdS contained 2% Ag or Au, or 0.012% In. The impurity content of the final crystal depended strongly on the conditions of growth. Copper and silver were incorporated in the lattice more readily than gold. Indium, even in small quantities, produced an [illegible] in the shape of the crystals. This [illegible] at low concentrations (up to

1/2

L 6809-65
ACCESSION NR: AP4044644

10^{-4}%) increased the conductivity but left the ratio of light to dark conductivity unaltered. At higher concentrations these impurities reduced the light to dark conductivity ratio. At large concentrations (about 1.5%) Cu greatly increased the conductivity and changed it from n- to p-type while Ag did not have this effect. Gold had very little effect on the resistivity, but it could be introduced only in small concentrations. The presence of a small quantity of Ir increased the dark conductivity from 10^{-9} to up to 10 mho/cm. The transparency of the crystals was measured over the photon energy range from [illegible] Iridium effected a considerable increase in free carrier absorption, starting at 0.62 eV. At low concentrations, Cu and Ag decreased the transparency uniformly. At higher concentrations [illegible] increased

[illegible]

SUBMITTED: [illegible]

SUB CODE: SS, EM

[illegible]

2/2

VITRIKHOVSKIY, N.I.; KURIK, M.V.

Nature of the observable hole conductivity of [illegible] with copper impurity. Fiz. tver. tela 7 no. 12 3673-3678 D '65 (MIRA 19:1)

1. Institut poluprovodnikov AN UkrSSR i Institut fiziki AN UkrSSR, Kiyev.

L 04614-67 EWP(e)/EWT(m)/EWT(l)/ETI IJP(c) JD/JH

ACC NR: AP6033574 SOURCE CODE: UR/0181/66/008/010/3084/3086

AUTHOR: Brodin, M. S.; Vitrikhovskiy, N. I.; Zakrevskiy, S. V.; Reznichenko, V. Ya.

ORG: Institute of Physics, AN UkrSSR (Institut fiziki AN UkrSSR); Institute of Semiconductors, AN UkrSSR, Kiev (Institut poluprovodnikov AN UkrSSR)

64
13

TITLE: Generation of compound CdS_x—$CdSe_{1-x}$ crystals excited by a ruby laser

16

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 3084-3086

TOPIC TAGS: solid state laser, semiconductor laser, cadmium sulfide, cadmium selenide, mixed semiconductor , luminescent crystal, stimulated emission

ABSTRACT: The present work is a continuation and expansion of an earlier study (UFZh, 11, 344, 1966) on the luminescence and generation of CdS—CdSe crystals excited by a two-photon ruby laser. The following CdS_x—$CdSe_{1-x}$ crystal compositions with the corresponding forbidden band ΔE were studied: 84—16% ($\Delta E \approx 2.44$ ev); 76—24% ($\Delta E \approx 2.38$ ev); 72—28% ($\Delta E \approx 2.34$ ev); 63—37% ($\Delta E \approx 2.28$ ev); and 42—58% ($\Delta E \approx 2.12$ ev); 38—62% ($\Delta E \approx 2.09$ ev); and 28—72% ($\Delta E \approx 2.01$ ev). All values of ΔE are given for T = 77K. All specimens were cut in the form of rectangular parallelepipeds or wedges with highly polished ends to form a plane resonator. The resonator length varied from 1 to 6 mm. The N-cooled specimens were pumped by a Q-switched ruby laser at power densities of 10—150 Mw/cm^2 and by a mercury lamp. Experimental data indicate that generation can be achieved in CdS_x—$CdSe_{1-x}$ crystals

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L 04614-67

ACC NR: AP6033574

(with x varied over a wide range) pumped by a ruby laser over a range from 4960 to 6800 Å. The experimentally observed polarization of the luminescence band and its width and frequency suggest the exciton nature of the stimulated emission. The generation line shift may be emitted by optical phonons. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 28Mar66/ ORIG REF: 008/ OTH REF: 001/ ATD PRESS: 5100

Card 2/2 LC

ACC NR: AP7004961 SOURCE CODE: UR/0048/66/030/009/1427/1429

AUTHOR: Vlasenko,N.A.; Vitrikhovskiy,N.I.; Denisova,Z.L.; Pavlenko,V.F.

ORG: none

TITLE: On the nature of the luminescence centers in cadmium sulfide /Report,Fourteenth All-Union Conference on Luminescence (Crystal Phosphors) held at Riga, 16-23 Sept. 1965/

SOURCE: AN SSSR, Izvestiya. Seriya fizicheskaya, v. 30, no. 9, 1966, 1427-1429

TOPIC TAGS: luminescence, cadmium sulfide, luminescence center, annealing, lattice defect

ABSTRACT: The authors investigated the influence of heat treatment in vacuum and in sulfur vapor, cadmium vapor, oxygen, and hydrogen sulfide and the presence of Group I and Group III dopants on the red, orange, and green luminescence of cadmium sulfide crystals and films in order to determine the nature of the corresponding luminescence centers. The crystals were grown from the gaseous phase by sublimation and synthesis, and the polycrystalline films were deposited in vacuum. The green luminescence centers were found to be thermally labile and it was not possible to produce them by any heat treatment. These centers were more stable in a sulfur atmosphere than in the other atmospheres; it is concluded that they are associated with local sulfur excesses in the lattice arising during crystal growth. Group III dopants increased the intensity

Card 1/2

ACC NR: AP7004961

of the green luminescence and Group I dopants reduced it. The activation energy for thermal quenching of the green luminescence was found to be 0.14 ± 0.01 eV, in agreement with the difference between the width of the forbidden band and the energy of the emitted photons. The orange luminescence was enhanced by anneal in an oxygen atmosphere and depressed by anneal in other atmospheres. From this and the findings of B.A.Kulp (Phys. Rev., 125, 1865 (1962)) concerning the effects of electron bombardment it is tentatively concluded that oxygen favors the formation of interstitial cationic defects in the form of singly charged interstitial cadmium ions, which are responsible for the orange luminescence. The red luminescence was found to be enhanced by heating in vacuum or in a cadmium atmosphere and by the presence of Group I dopants; from these results and from other data in the literature it is concluded that the red luminescence is due to recombination of an electron with a hole trapped at a sulfur vacancy. Orig. art. has: 1 figure.

SUB CODE: 20 SUBM DATE: none ORIG. REF: 000 OTH REF: 008

Card 2/2

L 20236-66 T/EWP(t)/EWP(n) IJP(c) JD

ACC NR: AP5020616 SOURCE CODE: GE/0030/65/010/002/0525/0534

AUTHOR: Brodin, M. S.; Vitrikhovskii, N. I.; Kurik, M. V.

ORG: [Brodin; Kurik] Institute of Physics, Academy of Sciences, Ukrainian SSR, Kiev; [Vitrikhovskii] Institute of Semiconductors, Academy of Sciences, Ukrainian SSR, Kiev

TITLE: Fundamental absorption edge of doped CdS single crystals

SOURCE: Physica status solidi, v. 10, no. 2, 1965, 525-534

TOPIC TAGS: absorption edge, single crystal, exciton, valence band, cadmium sulfide

ABSTRACT: An investigation of the fundamental absorption edge of single crystals of CdS at 300, 77, and 20.4K was made. The crystals had In and Ga donors, and Cu and Ag acceptors. It was shown that for donor concentrations between 10^{18} and 10^{19} cm^{-3}, the absorption edge was shifted towards longer wavelength. The acceptors did not lead to any changes in the absorption edge. The shift of the absorption edge by the donors and its effect on the exciton spectrum was discussed. The effect was thought to be associated with the deformation of the valence band and the formation of the "tail" of the density of states. Orig. art. has: 5 figures, 3 formulas and 1 table. [Author's abstract.]

SUB CODE: 20/ SUBM DATE: 11May65/ ORIG REF: 004/ OTH REF: 019/

Card 1/1

L 11124-66 EWT(1)/EWT(m)/T/EWP(b)/EWP(w)/EWP(t) LJP(c) GG/JD
ACC NR: AP6000885 SOURCE CODE: UR/0181/65/007/012/3676/3678

AUTHORS: Vitrikhovskiy, N. I.; Kurik, M. V.

ORG: Institute of Semiconductors AN UkrSSR (Institut poluprovodnikov AN UkrSSR); Institute of Physics AN UkrSSR, Kiev (Institut fiziki AN UkrSSR)

TITLE: On the nature of the observed hole conductivity of CdS crystals doped with copper

SOURCE: Fizika tverdogo tela, v. 7, no. 12, 1965, 3676-3678

TOPIC TAGS: cadmium sulfide, semiconductor conductivity, thermoelectric power

ABSTRACT: The purpose of the investigation was to study the detailed properties of crystals in which the solubility of the doping substance is limited, the role played by the precipitation of the new phase, and the cause of hole conductivity in such crystals. The copper-doped CdS crystals were obtained by sublimation from copper enriched powder by a procedure described earlier (Izv. AN SSSR ser.

Card 1/3

fiz. v. 27, 1316, 1964). Metallographic analysis has shown a noticeable precipitation of Cu_2S in the CdS, in the form of individual discs. Measurements were made of the temperature dependence of the resistivity and the thermoelectric power, the absorption and reflection spectrum at different temperatures. The procedure for the optical measurements was described earlier (Opt. i spektr. v. 19, 11, 1965). The low value of the thermoelectric power and its temperature dependence agree with those of copper sulfide. The reflection spectrum of the doped crystal was similar to that of the pure crystal, in agreement with earlier data by others. The precipitation of the new Cu_2S phase affects the variation of the resistivity of the crystals during heating and cooling in a manner similar to the temperature dependence of the solubility of the copper in the cadmium sulfide. It is concluded that the p-type conductivity of CdS crystals doped with large concentration of copper is due primarily to the properties of the new Cu_2S phase precipitated in the CdS lattice.

Authors thank P. M. Starik and P. I. Voronyuk of the Chernovtsy Univ.

L 14124-66
ACC NR: AP6000885

University for help with the measurements of the kinetic properties.
Orig. art. has: 2 figures

SUB CODE: 20/ SUBM DATE: 08Jul65/ ORIG REF: 002/ OTH REF: 008

Card 3/3

L 9914-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b)/EWA(m)-2/EWA(c) IJP(c) JD/AT

ACC NR: AP5022870 SOURCE CODE: UR/0051/65/019/003/0444/0446

AUTHOR: Brodin, M. S.; Vitrikhovskiy, N. I.; Kurik, M. V.

ORG: None

TITLE: Indirect transitions in CdS crystals

SOURCE: Optika i spektroskopiya, v. 19, no. 3, 1965, 444-446

TOPIC TAGS: cadmium sulfide, single crystal, electron transition, temperature dependence, exciton absorption

ABSTRACT: The temperature dependence of the absorption edge of CdS single crystals was measured for plane-parallel plates cut from a large single crystal grown by the reaction of the constituent materials in an inert atmosphere. The purpose of the investigation was to check on earlier conclusions by others concerning the transitions in CdS, which are based essentially on data obtained at high absorption coefficients. The crystals investigated had donor concentrations 1.3×10^{18} and 3.3×10^{18} cm^{-3}, and to ensure the required accuracy in measuring small absorption coefficients, the readings were made on crystals between 2.4 and 2.5 mm thick. The intensities were measured by photoelectric technique and the absorption coefficients corrected for optical reflection from the crystal. The shape and temperature dependence of the edge in the 1--15 cm^{-1} region, as well as the changes which accompanied the addition of large amounts of indium, show that the results must be attributed to indirect transitions. While it is not possible to draw any conclusions concerning the

Card 1/2 UDC: 535.34 : 548.0

L 9914-66

ACC NR: AP5022870

bands in which the transitions are occurring, it can be assumed that the transitions either occur in an additional extremum of the main exciton band, or that there is an additional exciton band to which transitions are forbidden in the dipole approximation. A change in the indium concentration from 1.3 to 3.3 x 10^{18} cm^{-3} is accompanied by a sharp change on the edge, which shifts toward lower energies by an amount approximately equal to the energy of the optical phonon (0.036 ± 0.002 ev). Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 07Sep64/ ORIG REF: 001/ OTH REF: 005

Card 2/2

AUTHOR: [illegible], M. Ya.

TITLE: Investigation of imperfections in the [illegible]

SOURCE: Fizika tverdogo [illegible]

TOPIC TAGS: cadmium [illegible]
crystal growth

ABSTRACT: It is pointed out in the introduction that earlier investigations of imperfections in these crystals were based predominantly on metallographic methods

Card 1/2

ACCESSION NR: AP5006897

Orig. art. has: 4 figures.

ASSOCIATION: [illegible] Kiev (Institute of Semiconductors)

SUBMITTED: 03Aug64 ENCL: 00 SUB CODE: SS

NR REF SOV: 005 OTHER: 006

Card 2/2

DMITRENKO, P.A.; VITRIKHOVSKIY, P.I.

Different ability of various legumes to assimilate phosphorus from hard-to-dissolve phosphates. Dokl. Akad. sel'khoz. nauk no.3:22-23 Mr '65. (MIRA 18:5)

1. Ukrainskiy nauchno-issledovatel'skiy institut zemledeliya.
2. Chlen-korrespondent AN UkrSSR (for Dmitrenko).

RAYTSES, V.S.; VITRIKUSH, Ye.V.

Automatic registration of salivation in studies on conditioned reflexes with the aid of an electromechanical apparatus. Zhur. vys.nerv.deiat. 3 no.6:952-954 N-D '53. (MLRA 7:5)

1. Kafedra normal'noy fiziologii Stanislavskogo meditsinskogo instituta.

(REFLEX, CONDITIONED,
*automatic registration of excretion of salivary in induction of reflex with electro-mechanic appliance)
(SALIVA,
*automatic registration of excretion in conditioned reflex unduced with electro-mechanic appliance)

SHENDEROVA, R.I.; VITRINSKAYA, A.M.

Effect of the humoral factor in immunized guinea pigs on the virulence and catalase activity of Mycobacterium tuberculosis. Biul.eksp.biol.i med. 58 no.10:96-98 O '64. (MIRA 18:12)

1. Laboratoriya biokhimii (zav. - kand.biol.nauk A.M.Vitrinskaya) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza (dir. - prof. A.D.Semenov). Submitted March 22, 1963.

SHENDEROVA, R.I.; VITRINSKAYA, A.M.

Effect of serum from immunized guinea pigs on the reproduction and catalytic activity of Mycobacterium tuberculosis. Biul. eksp.biol.i med. 54 no.11:68-71 N '62. (MIRA 15:12)

1. Iz laboratorii biokhimii (zav. - kand.biologicheskikh nauk A.M.Vitrinskaya) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza (dir. - prof. A.D.Semenov). Predstavlena akademikom V.N.Chernigovskim.
(MYCOBACTERIUM TUBERCULOSIS)(SERUM)

VITRINSKAYA, A. M.

USSR/Medicine - Microorganisms Jul 48
Medicine - Fungi

"The Use of Oxygen in Inhibiting the Zymotic Ability of Torula Utilis," V. S. Shapot, A. M. Vitrinskaya, Inst Experimental Med, Acad Med Sci USSR, 3¼ pp

"Dok Ak Nauk SSSR" Vol LXI, No 3

Reports experiments on Torula utilis. Results indicate that suppression of the microbe's zymotic ability is due, not to disappearance of zymase complex, but to inactivization of some fermentation link of this complex which is irreversible in a particular generation. Submitted 21 May 48.

11/49T63

VITRINSKAYA, A.M.

USSR / Microbiology. Medical and Veterinary Microbiology. F-5

Abs Jour: Referat Zh.-Biol., No 6, 25 March, 1957, 22107

Author : Freiman, Yu. M., Vitrinskaya, A.M.
Inst :
Title : Course of Experimental Tuberculosis Aided by Some Climatic Factors.

Orig Pub: V Sb.: Vopr. lecheniya bolnykh tuberkulezom na klimat. kurorte, Simferopol, 1955, 137-139

Abstract: No abstract.

Card : 1/1 -62-

VITRINSKAYA, A.M.

Activity of adenosinetriphosphatase in tubercle bacilli in the presence of serum of animals with various forms of resistance. Biul. eksp. biol. i med. 52 no.9:59-62 S '61. (MIRA 15:6)

1. Iz laboratorii biokhimii (zav. - kand.biolog.nauk A.M. Vitrinskaya) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza (ditektor - prof. A.D. Semenov). Predstavlena akademikom V.N. Chernigovskim.

(ADENOSINE TRIPHOSPHATASE)
(MYCOBACTERIUM TUBERCULOSIS)
(SERUM)

VITRINSKAYA, A.M.

Effect of blood plasma and serum from animals with different species-resistance on oxygen and phosphorus assimilation in the pathogen of tuberculosis. Biul. eksp. biol. i med. 51 no.4:82-86 Ap '61. (MIRA 14:8)

1. Iz laboratorii mikrobiologii (zav. V.I.Kudryavtseva, konsul'tant - prof. V.M.Berman) Leningradskogo nauchno-issledovatel'skogo instituta tuberkuleza (dir. - prof. A.D.Semenov). Predstavlena akademikom V.N.Chernigovskim.

(MYCOBACTERIUM TUBERCULOSIS) (OXYGEN METABOLISM)
(PHOSPHORUS METABOLISM) (TUBERCULOSIS)

S/058/63/000/003/101/104
A066/A101

AUTHOR: Vitrinskiy, I. M.

TITLE: Noise standard indicator of type ИНШ-2-ЛИОТ (INSh-2-LIOT)

PERIODICAL: Referativnyy zhurnal, Fizika, no. 3, 1963, 60, abstract 3Zh367 ("Sb. nauchn. rabot in-tov okhrany truda VTsSPS", no. 3, 1962, 87 - 91)

TEXT: The instrument described is designed for checking industrial noise as to its conformity with standard specifications. The electrical circuit diagram of the instrument is presented together with technical data. An МД-44 (MD-44) microphone is used in the instrument. The amplifier has 4 semiconductor stages. The scale of the instrument is linearly logarithmic within the range about 20 db and is graduated according to subjective loudness standards (from "standard" to "3 times above standard"). The error in measurements does not exceed 3 db. The instrument is fed from accumulators having a special battery charger. The standard frequency characteristics of the instrument is given along with examples of noise assessment. The instrument weighs 300 g and has a size of 115 by 54 by 42 mm.
[Abstracter's note: Complete translation]
Card 1/1

VITRINSKIY, I.M.

Category : USSR/Acoustics - Physiological acoustics. Speech and singing J-8

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2192

Author : Vitrinskiy, I.M.
Title : The LIOT Portable Audiometers

Orig Pub : Tr. Nauch. sessii Vses. n.-i. in-ta okhrany truda. 1954. Vyp. 3. L., 1955, 103-109

Abstract : Description of three constructions of light portable audiometers, developed by the author for the investigation of the sensitivity of hearing under industrial and transportation conditions. The A-53 audiometer contains a transitron sonic generator with 11 fixed frequencies, an amplifier with heavy negative feedback, a two-step decibel attenuator with a switchover at 1 and 10 db, a cuprox voltmeter, and an electrodynamic measuring telephone with earpieces. The frequency range is 200--7000 cycles.

The dynamic range is 110 db. The amplifier is provided with electric compensation, insuring a constant sound pressure under the mouthpiece of a given telephone at all operating frequencies. The instrument is battery operated. The instrument is constructed in the form of a carrying case with removable cover.

The A-54 audiometer differs in that it uses an RC generator with a phase bridge. The role of the thermistor is assumed by an MMT-4 photo resistor.

Card : 1/2

Category : USSR/Acoustics - Physiological acoustics. Speech and singing J-8

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2192

The generator is quite stable and is not critical with respect to the power supply. The amplifier is push-pull, the signal is applied by turning on the filaments of the amplifier tubes, thus fully eliminating clicks in the telephone and reducing sharply the power drain. The frequency range is 125-10,000 cycles, the levels are switched in steps of 5 db over a 120 db range. The A-55 audiometer is a two-tube instrument, made up entirely of standard parts. The generator is of the LC transitron type with 12 fixed frequencies with a range 80-10,000 cycles. The dynamic range is 110 db. The instrument readings are reduced to the normal threshold with the aid of a table calculator. Diagrams and photographs of the instruments are shown.

Card : 2/2

VITRUK, V.P.

Performance of the "Bukau-Wolf" diffusion systems. Sakh.prom. 35[i.e. 36] no.2:31-32 F '62. (MIRA 15:4)

1. Sakharnyy zavod "Kollektivist".
(Sugar industry—Equipment and supplies)

L 10344-67 EWT(m)/EWP(e) WH

ACC NR: AP6031508 (N) SOURCE CODE: UR/0226/66/000/008/0101/0105

AUTHOR: Samsonov, G. V.; Vitryanyuk, V. K.; Ordenko, V. B. 40

ORG: Kiev Polytechnical Institute (Kievskiy politekhnicheskiy institut)

TITLE: Preparation of highly porous materials from refractory compounds

SOURCE: Poroshkovaya metallurgiya, no. 8, 1966, 101-105

TOPIC TAGS: porous material, refractory metal, refractory metal compound, refractory metal carbide, refractory metal boride, refractory metal silicide, oxide reduction, porosity, porous metal

ABSTRACT: The authors investigated the possibility of obtaining high-porosity products from carbides, silicides and borides of refractory metals by reduction of oxides with simultaneous sintering of the obtained active particles of compounds, during which the volatile products of reduction, such as CO, B_2O_2 and SiO, escape. Conditions were established for the preparation of high-porosity articles (up to 70—72% porosity) from chromium carbide by reduction of chromium oxide with carbon black and simultaneous sintering. Orig. art. has: 2 figures and 2 tables. [TD]

SUB CODE: 11, 13/ SUBM DATE: 06Apr66/ ORIG REF: 011/ OTH REF: 001

Card 1/1 pb

ACC NR: AP7004393 (N) SOURCE CODE: UR/0226/67/000/001/0027/0030

AUTHOR: Prshedromirskaya, Ye. M.; Sleptsov, V. M.; Vitryanyuk, V. K.; Kukota, Yu. P.

ORG: Institute of Problems of the Science of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Investigation of the penetrability of porous materials from refractory compounds

SOURCE: Poroshkovaya metallurgiya, no. 1, 1967, 27-30

TOPIC TAGS: refractory compound, spheric METAL POWDER, POWDER METAL SINTERING, ~~porous material, material penetrability~~, POROSITY, GAS ABSORPTION, TITANIUM CARBIDE, TUNGSTEN CARBIDE, ZIRCONIUM CARBIDE

ABSTRACT: The effect of the granulometric composition on the gas penetrability of porous TiC, WC, ZrC, TiB_2 and ZrB_2 parts sintered from spheroidized powders has been investigated in the range of air delivery and pressure drop, which ensured a linear filtration. The particle size was found to affect significantly the gas penetrability of sintered porous materials. For example, increasing particle size from 60 to 600 μ increased the penetrability of sintered parts with the same porosity by 5—10 times. In powders of comparable particle size, those with a higher porosity have a higher gas penetrability. The kind of material had a negligible effect on the gas penetrability of sintered parts. The dependence of the penetrability coefficient (K) on the porosity (P) and particle diameter (D) is approximated by the formula:

Card 1/2 UDC: none

ACC NR: AP7004393

$$K = \frac{D^2 + 0.06}{4.4 + 0.072P} \cdot 10^{-11}.$$

The formula is satisfactory for porous materials with a porosity of 25—55% sintered from spheroidized TiC, WC, Zr, TiB_2 and ZrB_2. For processes associated with mass transfer, in addition to knowledge of the total porosity of a material, it is necessary to know the amount and distribution of open pores. The distribution of pores according to dimensions was investigated at a laboratory of the Institute of Electrochemistry under the direction of Dr. of Chemical Sciences R. Kh. Burshteyn. The radii of pores in the 100—7 μ range were measured using a vacuum unit at a pressure of 40—700 mm Hg, and in the 7—0.01 μ range at a pressure of 1—801 atu. The test specimens were prepared from spheroidized WC particles. The obtained results were practically identical with those obtained by hydrostatic weighing. The plotted integral and differential curves for the pores' distribution according to dimensions showed that the structure of porous materials from spheroidized powders of refractory metals is sufficiently homogeneous, and that the pore dimensions are determined mainly by the dimensions of the initial particles and the packing method. Orig. art. has: 4 figures and 1 table.

[MS]

SUB CODE: 11/ SUBM DATE: 26May66/ ORIG REF: 008/ ATD PRESS: 5116

Card 2/2

VITS, YU. I.

VITS, YU. I.

6644 VITS, YU. I BEZOTKHODNAYA SHTAMPOVKA KHOLODNYKOV (K) 1954 4 s s/ chert 26 sm (MVO ELEKTROTEKHNI PR I. STI SSSR TSENTI. BYURO TEKH N INFORMATSII. OBMEN OPYTOM. V ELEKTROTEKHN PROM*STIL. NO. 24) 1500 ekz b. Ts. sost. ukazan v kontse teksta (55-385 zh) 621.96

SO: KNIZHNAYA LETOPIS' NO. 6, 1955

VITS, Yuriy Izrailevich; RAKHLINA,D.B., redaktor; ZABRODINA,A.A., tekhnicheskiy redaktor

[Pressing of electric insulator parts] Pressovanie elektroizoliatsionnykh detalei. Moskva, Gos.energ. izd-vo, 1955. 143 p. (Electric insulators and insulation) (MLRA 9:2)

VITSADZE, A.V., POSTNIKOV, A.G.

Session of Bulgarian mathematicians. Usp.mat.nauk 12 no.2(74):246 Mr-Ap '57. (MLRA 10:7)

(Sofia--Mathematics)

KANIBOLOTSKIY, N.K.; VITSANI, F.I.

Mechanization of labor-consuming work at sugar factories of the Voronezh Economic Council. Sakh.prom. 34 no.9:35-37 S '60. (MIRA 13:9)

1. Voronezhskiy sovnarkhoz.
(Voronezh Province--Sugar industry)

KANIBOLOTSKIY, N.F.; VITVANI, F.I.

Mechanization of heavy and labor-consuming operations in the factories of the Voronezh Sugar Trust. Sakh.prom. 31 no.8:47-49 Ag '57. (MLRA 10:8)

1. Voronezhskiy sakhsveklotrest.
(Loading and unloading)

VITSANI, F.I.

Greater attention to using machinery for heavy and labor-consuming operations. Sakh.prom. 27 no.7:7-12 Jl '53. (MLRA 6:6)

1. Voroneshskiy sakhsveklotrest. (Sugar machinery)

VITSENA

CZECHOSLOVAKIA / Magnetism. Ferromagnetism. F-4

Abs Jour : Ref Zhur - Fizika, No 3, 1957, 6851

Author : Vitsena
Inst : Physics Institute of Czechoslovak Academy of Sciences, Prague, Cezchoslovakia.
Title : Concerning the Connection Between the Coercive Force of a Ferromagnetic and the Internal Stress.

Orig Pub : Chekhosl. fiz. kh., 1954, 4, No 4, 419 - 438

Abstract : The shortcomings of modern theory of the effect of stresses on the coercive force have been analyzed and lead to a solution of the problem for the case of a simple model of the distribution of the disordered mechanical stresses in a ferromagnetic. A count is taken of those factors which from the point of view of modern concepts (particularly the modern status of inclusion theory) can exert an influence on the coercive force, and to which insufficient attention was paid in previous investigations. It is shown that the resulting

Card : 1/2

CZECHOSLOVAKIA / Magnetism. Ferromagnetism. F-4

Abs Jour : Ref Zhur - Fizika, No 3, 1957, 6851

Abstract : coercive force depends on the degree of dispersion of the internal stress. One can neglect neither the effect of the surface stress nor the effect of the internal magnetic charges. It is shown in what cases one of the mechanisms predominates. Relationships are given for the ratio of the coercive force due to the presence of inhomogeneous inclusions to that due to the internal stress. Numerical values are obtained for iron and nickel. A relation is then derived for evaluating that portion of the resultant coercive force that is due to the mechanism of internal stress, and for that due to the mechanism of magnetic charges. It is shown that internal stresses of 30 kg/mm^2 can cause a coercive force ranging up to one oersted in iron and ten oersted in nickel.

Card : 2/2

VITSENI, Yefim Mikhaylovich; TER-GRIGORYAN, Yu.N., retsenzent; PERSHINA, Ye.G., ved. red.

[Cumulative perforators used in oil and gas wells] Kumuliativnye perforatory, primeniaemye v neftianykh i gazovykh skvazhinakh. Moskva, Nedra, 1965. 130 p. (MIRA 18:5)

L 24357-66 FSS-2/EWT(1)

ACC NR: AP6005958 SOURCE CODE: UR/0127/66/000/002/0057/0060

AUTHOR: Sofronov, A. V.; Abramov, A. V.; Nizovoy, Yu. K.; Nefedov, A. P.; Vitseni, Ye. M.

ORG: none

TITLE: The development and application of "dynamo-reactive" grenade launchers in the mining industry

SOURCE: Gornyy zhurnal, no. 2, 1966, 57-60

TOPIC TAGS: mining engineering, grenade, ground weapon, weapon launcher

ABSTRACT: In 1960, the Ramenskoye Branch of VNIIgeofiziki (Ramenskoye otdeleniye VNIIgeofiziki) began research on the design of a firing system to eliminate overhangs in mining operations. One of the most acceptable versions of the design is a system operating on the recoilless weapon principle: the "dynamo-reactive" cannon

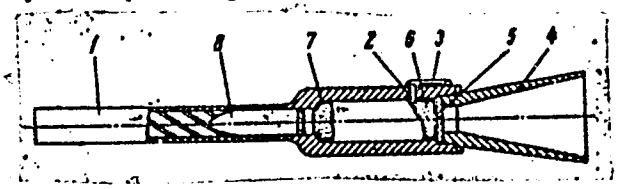


Fig. 1. Diagram of a recoilless cannon.

1 - Barrel; 2 - cap bushing; 3 - firing mechanism; 4 - nozzle; 5 - bottom plate; 6 - cartridge; 7 - cartridge case; 8 - shell

Card 1/2 UDC: 621.926.1

L 24357-66

ACC NR: AP6005958

(see Fig. 1). The advantages of the proposed device are: small caliber, low weight, no recoil with high power, high maneuverability, and the opportunity of firing dummies or high-explosive projectiles. Further research resulted in the design of the DRS-130 dynamo-reactive grenade launcher (see Fig. 2). The results obtained in

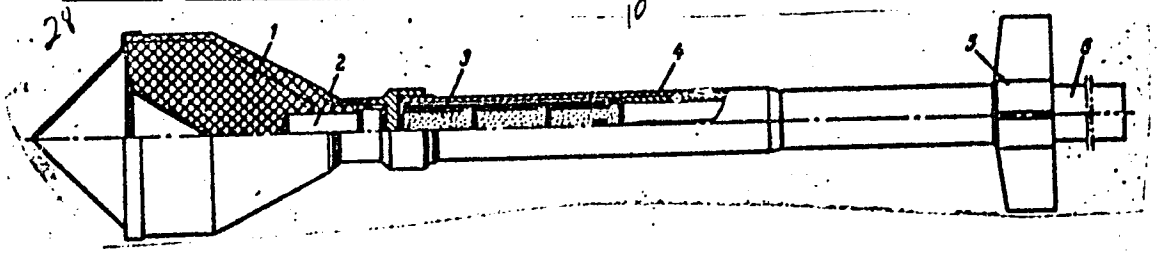


Fig. 2. The DRS-130 dynamo-reactive grenade launcher.

1 - Shell; 2 - igniter; 3 - powder charge; 4 - charge chamber; 5 - fins; 6 - barrel.

ballistic tests were excellent and tests were conducted under field conditions. In addition to its main function, the grenade launcher may also be used to string cable, to eliminate the danger of avalanches, and to break up ice formations in rivers. Orig. art. has: 4 figures and 1 table. [08]

SUB CODE: 19/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 002/

Card 2/2

POMETUN, Dmitriy Yefimovich; VITSENI, Yefim Mikhaylovich; IONEL', A.G., ved. red.

[Perforation, shooting, and rock sampling in oil and gas wells] Perforirovanie, torpedirovanie i otbor porod v skvazhinakh. Moskva, Nedra, 1964. 338 p. (MIRA 17:12)

BESPYATOV, M.P., kand.tekhn.nauk; POLSTYANOY, V.I., inzh.; VITSENKO, I.S., inzh.; SUKHOBRUSOV, P.N., inzh.; SHVEDOV, V.K., inzh.; KULIK, Yu.A., inzh.

Continuous contact splitting of fats. Masl.-zhir. prom. 23 no.9:22-23 '57. (MIRA 10:12)

1.Khar'kovskiy politekhnicheskiy institut (for Bespyatov).
2.Khar'kovskiy mylovarennyy kombinat (for Polstyanoy, Vitsenko, Sukhobrusov, Shvedov, Kulik).
(Oils and fats)

S/781/62/000/000/034/036

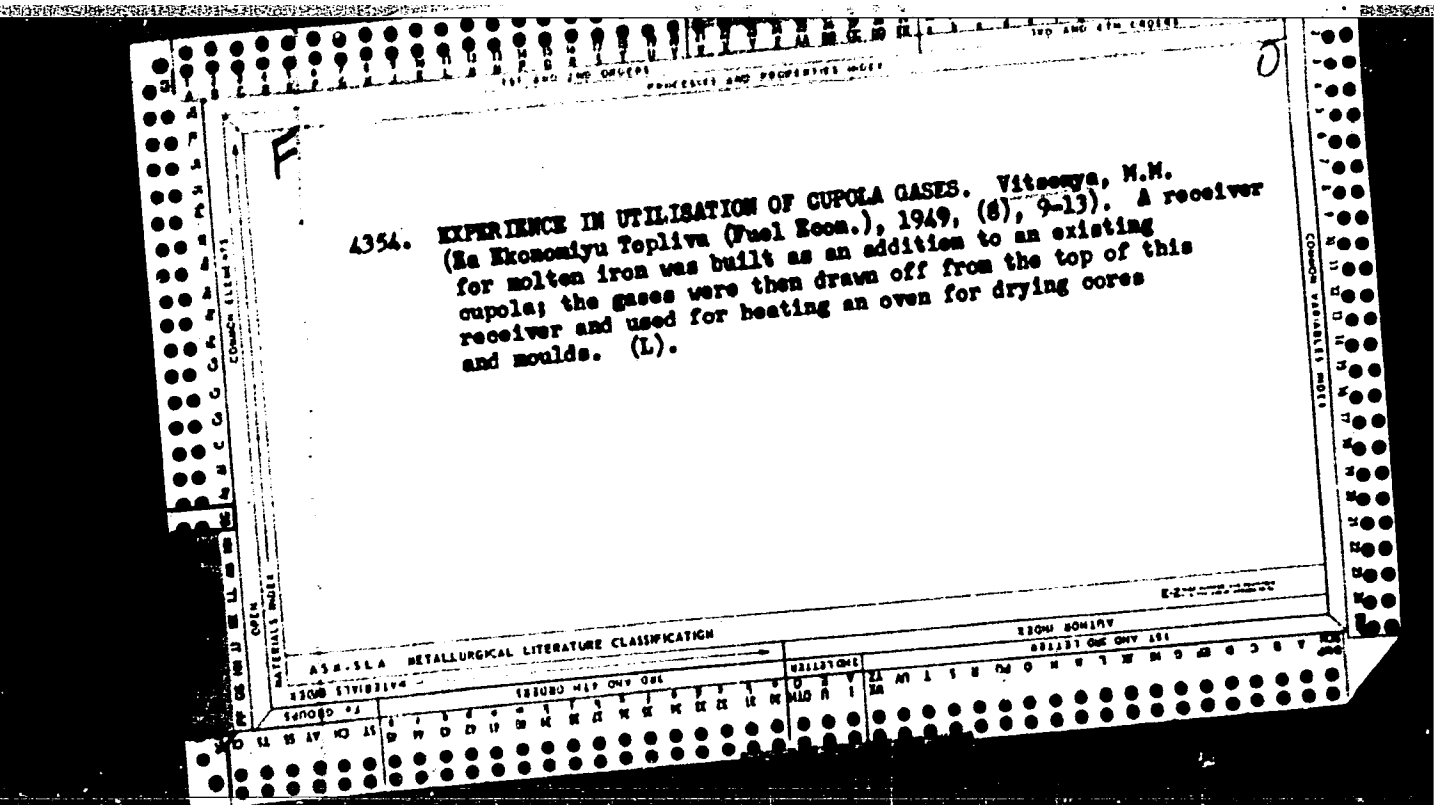
AUTHORS: Silenok-Bel'skiy, G. A., Dikiy, A. G., Solodovchenko, S. I. Vitsenko, V. I.

TITLE: Measurement of electron concnetration in a plasma at low frequencies

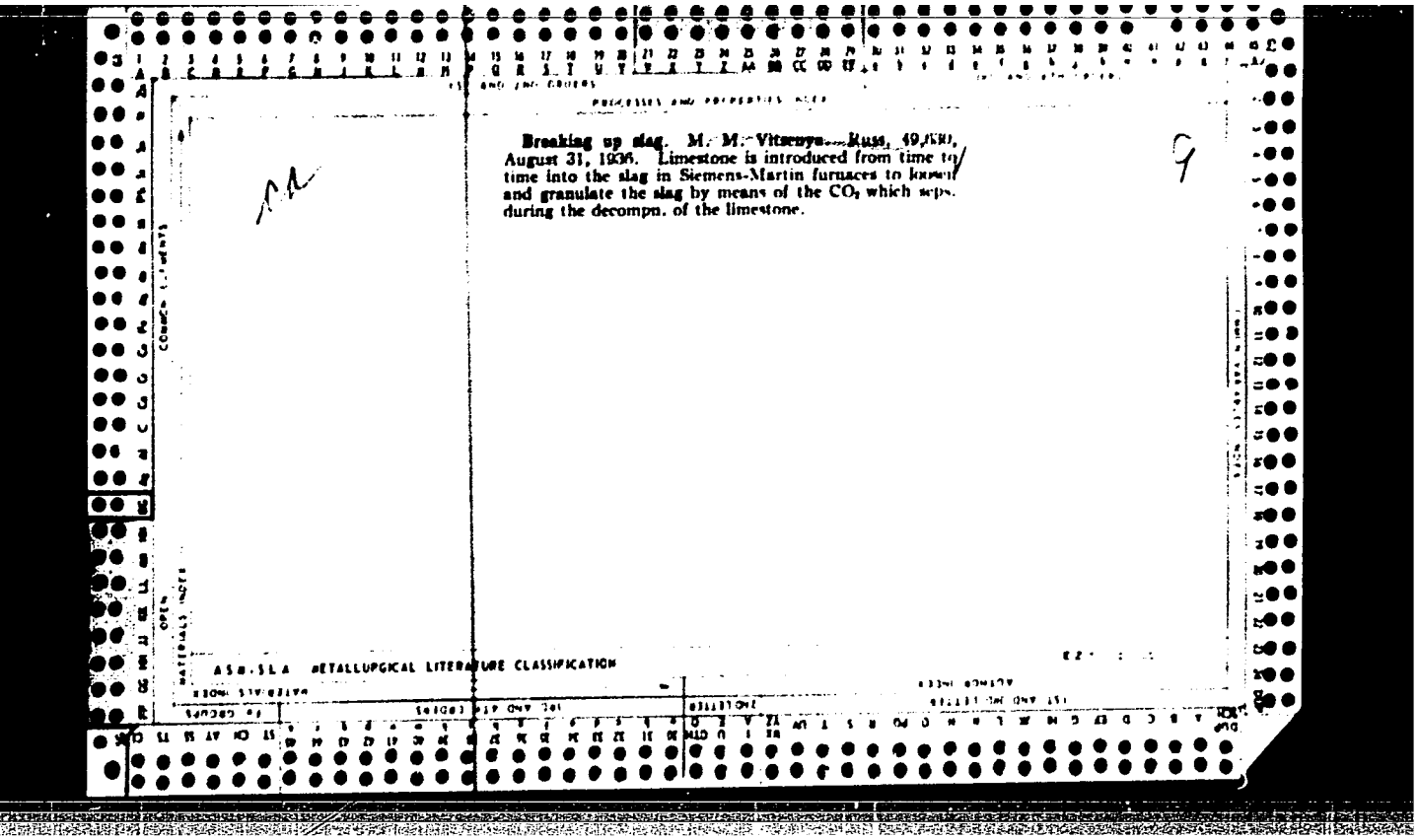
SOURCE: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza; doklady I konferentsii po fizike plazmy i probleme upravlyayemykh termoyadernykh reaktsiy. Fiz.-tekhn. inst. AN Ukr. SSR. Kiev, Izd-vo AN Ukr. SSR., 1962, 165- 167.

TEXT: A method has been developed for measuring the concentration and collision frequency of electrons by determining the change in impedance of a solenoid into which the plasma is introduced. The electromagnetic field of the sounding signal was given a configuration such as to avoid electric polarization. Several schemes for density measurements were tried, and the best turned out to be the usual method of measuring the Q of a resonant circuit. The experiments were carried out at pressures 10^{-1} - 10^{-2} mm Hg, and the densities measured were in the range from 4×10^9 to 5×10^{10} el/cm^3. There are three figures.

Card 1/1



4354. EXPERIENCE IN UTILISATION OF CUPOLA GASES. Vitenzya, M.M. (Za Ekonomiyu Topliva (Fuel Econ.), 1949, (8), 9-13). A receiver for molten iron was built as an addition to an existing cupola; the gases were then drawn off from the top of this receiver and used for heating an oven for drying cores and moulds. (L).



Breaking up slag. M. M. Vitsenya....Russ, 49,(8), August 31, 1936. Limestone is introduced from time to time into the slag in Siemens-Martin furnaces to loosen and granulate the slag by means of the CO_2 which escapes during the decompn. of the limestone.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

DUVANKOV, G.; VITSENOVSKAYA, V.

Brief notes. Okhr. truda i sots. strakh. 6 no.9:47 S '63.
(MIRA 16:10)

1. Sekretar' komissii Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov po okhrane truda (for Duvankov). 2. Sekretar' komissii Vsesoyuznogo tsentral'nogo soveta professional'nykh soyuzov po sotsial'nomu strakhovaniyu (for Vitsenovskaya).

VITSENOVSKAYA, V., yurist

Rights and duties of the members of social insurance committees. Okhr. truda i sots. strakh. 7 no.2:41-42 F '64. (MIRA 17:2)

VITSENOVSKAYA, V., yurist

Payments to working invalids. Okhr.truda i sots.strakh. 6 no.2: 42-43 F '63. (MIRA 16:2)
(Insurance, Social)

VITSENYA, M.M.

FDD

63/49T29

USSR/Engineering Dec 48
Mechanization
Metallurgy

"Effective Utilization of Scraper Outfits in Old Metallurgical Plants," M. M. Vitsenya, Engr, 3 pp

"Mekh Trud i Tyazh Rabot" No 12

Kushvinsk Metal Factory (Ural) became one of the leading metallurgy enterprises in productivity due to mechanized loading of piece goods during past years. Main characteristic of mechanization consisted in using stationary scraper outfits for loading raw material and fuel in mills. Stresses importance of: (1) rapid mechanization for labor consuming work, (2) reduction of insignificant expenses, and (3) use of simple equipment used by Kushvinsk Factory, with graphs.

63/49T29

FDD

USSR/Engineering (Contd) Dec 48

completely describes scraper

1. VITSENYA, M. M., Eng.

2. USSR 600

4. Ore Dressing

7. Four-pointed hook for removing ore sticking in bunkers, Gor. khoz., No. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

VITSENYA, M. M.

PA 48/49T35

USSR/Engineering
Furnaces, Blast
Metallurgy

Feb 49

"Use of Multi-Cyclone Gas Purifiers in Blast Furnace Production," M. M. Vitsenya, Engr, 3 pp

"Za Ekonomiyu Topliva" No 2

Introduction of subject method at Kushvinsk Metallurgical Factory eased critical shortage of water. Method permits obtaining blast furnace gas with dust content of 2 grams per cu m of gas (under normal conditions). This "dry" cleaning method made gas more usable under industrial

IC 48/49T35

USSR/Engineering (Contd) Feb 49

conditions. Success of method might suggest its applicability in other metallurgical factories.

IC 48/49T35

L 40758-65 EWP(m)/EPF(c)/EPR/EWG(j)/EWA(h)/EWA(c)/EWA(l)/EWP(m)/FCS(k)/EWP(b)/

ACCESSION NR: AP5006161 0258/65/005/001/0045/0052

AUTHOR: [illegible]

TITLE: Experimental investigation of shock waves excited by a current pulse in a [illegible]

TOPIC TAGS: shock wave, plasma motion, plasma electromagnetic wave interaction, pressure dependence

ABSTRACT: [illegible] parallel electrodes over a wide range of pressures, for the purpose of checking the applicability of the various theories proposed for the acceleration of a plasma [illegible] were carried out by optical (photomultipliers and spectrograph) and electrical (double probes) methods. The test set-up is illustrated in Fig. 1 of the Enclosure and the apparatus is described in some detail. The results show that, starting with an initial pressure [illegible] the onset of current flowing in

Card 1/3

L 40758-65

ACCESSION NR: AP5006160 4

tween two plane-parallel electrodes in air begins to behave like a shock wave

ments." Orig. art. has: 6 figures, 1 formula, and 1 table.

ASSOCIATION: None

SUBMITTED: 20Mar64 ENCL: SUB CODE: ME

NR REF SOV: 006 OTHER: 004

Card 2/3

ACCESSION NR: AP5020994

UR/0203/65/005/004/0649/0657
550.388.2:621.391.81

[illegible] time distribution of electron concentration in the outer ionosphere, and its stratified-nonuniformity [illegible] nonuniform structure in the

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 4, 1965, 649-657

TOPIC TAGS: ionosphere, electron concentration, nonuniform plasma, Doppler effect, ion concentration, [illegible]