

HENNER, K.; BEJSOVEC, M.; LOUCKA, V.; MASAK, A.; POLACEK, L.; PONCA, E.;  
SVOBODA, A.; VACEK, M.

Multiple sclerosis in Czechoslovakia. Acta Univ. Carol. [med.]  
(Praha) 10 no.7:541-548 '64

1. Neurological Department, Faculty of General Medicine, Charles  
University, Prague (Director: Academician Prof. MUDr. K. Henner,  
DrSc.).

L 13398-66

ACC NR: AP6006745

SOURCE CODE: CZ/0082/65/000/004/0313/0315

AUTHOR: Bejsovec, M.; Kase, F. 80

ORG: Neurological Department, Regional Hospital, Usti (Neurologické oddělení krajské nemocnice); Regional Transfusion Station, Usti (Krajská transfúzní stanice)

TITLE: Paresis of the femoral nerve in primary thrombocythemia

SOURCE: Ceskoslovenska neurologie, no. 4, 1965, 313-315

TOPIC TAGS: nervous system disease, blood disease

ABSTRACT: Author describes a patient who, although otherwise healthy, suffered for 5 years with a high degree of bleeding. Clinical investigation revealed a primary hemorrhagic thrombocythemia; it appears that the neurological complications were due to bleeding into the area of the femoral nerve. The disease is rather rare. [JPRS]

SUB CODE: 06 / SUBM DATE: 16Feb65 / ORIG REF: 003 / OTH REF: 008

Card 1/1 *[Handwritten signature]*

~~L 65053-65 EWT(m)/EPA(m)-2/EHA(m)-2 (JP(e))~~

ACCESSION NR: AT5009471

Z/0000/64/000/000/0248/0253

AUTHORS: KALL, V.; Bejsovec, V.; Mares, J.; Trepal, Z.; Marek, M.

TITLE: Source of polarized ions for cyclotron

CONFERENCE: Conference on Low Temperature Physics and Techniques

TOPIC TAGS: particle accelerator, ion polarization, hydrogen atom reaction

ABSTRACT: The authors describe a source of polarized ions now being built in order to extend the experimental possibilities of the cyclotron of the Nuclear Research Institute of the Czechoslovak Academy of Sciences. A diagram of the source is shown in Fig. 1 of the

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L 65053-65

ACCESSION NR: AT5009471

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enclosure. The high-frequency method described earlier by M. K. Craddock (Basel Conference, 1959) is used for the dissociation. Approximately 10% polarization of protons and approximately 60% polarization of deuterons is possible. Optimum yields of  $4 \times 10^{17}$  ions per second are obtainable at a pressure of  $1.5 \times 10^{-4}$  mm and a temperature of 1000°K. The atomic beam is produced by a laser discharge through a small hole in a cathode. The atomic beam is ionized at the center of the cyclotron by means of an inverse magnetron, an experimental model of which was built and tested in the laboratory. Work on the method of ionizing the atomic ray is not yet finished. The inverse magnetron was described by Garreta et al. (Nucl. Inst. Methods, 1961, 10, 100). The atomic beam has a diameter of 0.5 mm and a length of 10 cm.

ASSOCIATION: Nuclear Research Institute, Czechoslovak Academy of Sciences, Rez.

Cont. 2/4

1 65053-65

ACCESSION NR: A15000471

SMITH

DATE: 1

REF ID: NF

NO REF SOV: 000

OTHER: 010

Card 3/4

L 65053-65  
ACCESSION NR: AT5007471

ENCLOSURE: 01

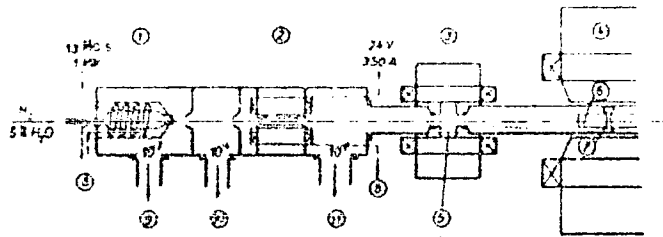


Fig. 1. Principal scheme of the source of polarized ions for the cyclotron of the Nuclear Research Institute. 1 - dissociator; 2 - separation quadrupole magnet; 3 - adiabatic magnet; 4 - cyclotron U-120; 5 - cavity resonator; 6 - diapole; 7 - ionization; 8 - cooling; 9, 10, 11 - oil diffusion pumps 1000, 500, 1500 iqa respectively.

10 PP  
Card 4/4

ACCESSION NR: AP4039555

z/0038/64/000/005/0164/0168

AUTHOR: Bejsovec, Vaclav (Bayshovets, V.)

TITLE: Production of elemental hydrogen in electrical discharge

SOURCE: Jaderna energie, no. 5, 1964, 164-168

TOPIC TAGS: hydrogen, elemental hydrogen, elemental hydrogen production, electrical discharge hydrogen production, atomic energy, hydrogen atmosphere electrical discharge, polarized particle, polarized particle source, dissociator, polarized particle dissociator

ABSTRACT: The article summarizes the basic physical theoretical and experimental data concerning the production of elemental hydrogen in an electrical discharge in a hydrogen atmosphere. Some of the dissociators used for polarized particles are described. These include a dissociator with capacitive coupling, one with inductive coupling, and a dissociator with arc discharge. The maximum escape of the elemental hydrogen in these dissociators is limited by the pumping rate of the diffusion pumps and by the method of transferring the atoms from the dissociation zone to the evacuated space. The escape part of the dissociator (multipassage or

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ACCESSION NR: AP4039555

Laval nozzle) must be made out of a material with a low coefficient of surface re-combination. The intensities of the elemental beams escaping from the dissociator lie within the limits  $10^{19}$  to  $10^{21}$  atoms/sec-cm<sup>2</sup>. Higher values can be attained only by raising the pressure in the dissociator, or by the use of a Laval nozzle and heavy-duty pump. A dissociator of this type developed by J. O. Cobine and D. A. Wilbur (Fourn. Appl. Phys. 22, 1951, 835) in which a high dissociation is obtained under atmospheric pressure, shows some very good prospect. Original article has: 6 figures, 4 tables and 2 equations.

ASSOCIATION: Ustav jaderneho vyzkumu CSAV Rez (Institute of Nuclear Research)

SUBMITTED: 00

DATE ACQ: 12Jun64

ENCL: 00

SUB CODE: NP,00

NO REF SOV: 000

OTHER: 025

Card 2/2



HUNGARY/General Problems of Pathology - Experimental Therapy.

U-3

Abs Jour : Ref Zhur - Biol., No 16, 1958, 75480  
Author : Gati, Eva; Inke, G.; Bejtai, A.; Gyarfás, J.  
Inst : Hungarian Academy of Sciences.  
Title : Cytologic Changes in Cells of Ascitic Carcinoma of Ehrlich, Particularly of Nuclei and Nucleoli, Under the Influence of Nitrous Derivative of Yperite.  
Orig Pub : Acta morphol. Acad. Sci. hung., 1957, 7, No 3, 343-350  
Abstract : Three-month-old mice were inoculated intraperitoneally with 1 million of cells of an ascitic carcinoma of Ehrlich. Degenerative changes of tumor cells were studied in smears and sections taken from separate portions of ascites, obtained through tapping of mice before and after introduction of DL<sub>50</sub> preparations of methyl-bis-(β-chloroethyl)-amine at a dosage of 2 8/8, triethylenemelamine (TEM)

Card 1/2

- 10 -

BEJU, D.

New palynological data on the Paleozoic in the Moesian Platform.  
Petrol si gaze 15 no.9:465-468 3 '64.

1. Enterprise of Geologic Laboratories, Ministry of the Petroleum  
and Chemical Industry.

VENKATACHALA, B. S.; BEJU, D.

Presence of the Devonian in the foundations of the Calarasi zone.  
Petrol si gaze 12 no.11:494-495 N.'61.

1. Institutul de Paleobotanica Birbal Sahni, Lucknow, India (for Venkatachala) 2. Intreprinderea de Laboratoare Geologice, Buduresti (for Beju).

(Rumania--Geology, Stratigraphic)

VENKATACHALA, B.S.; BEJU, D.

About the presence of carboniferous formation in the foundation of the Calareti zone. Petrol si gaze 13 no.4:145-151. Ap '62.

1. Institutul de paleobotanica Birbal Sahni, Lucknow, India (for Venkatachala). 2. Intreprindrea de laboratoare geologice, Bucuresti (for Beju).

BEJU, D.; DANET, N.

The Silurian Chitinozoans from the Moldavian Platform  
and the Moesian Platform. Petrol si gaze 13 no.12:527-536  
D '62.

1. Intreprinderea de laboratoare geologice, Ministerul  
Industriei Petrolului si Chimiei.

COSTACHEL, O.; POPP, I.; TEITEL, S.; BEJU, D.; ANGHEL, E.

The effect of the administration of lymph-node and epithelial homogenates on the metastasis of some experimental tumors.  
Stud. cercet. endocr. 14 no.4/5/6:571-577 '63.

BEJVL, J.

"Automatic control of steam turbines."

AUTOMATISACE, Praha, Czechoslovakia, Vol. 2, no. 5, May 1959

Monthly List of East European Accessions Index (EEAI), IC, Vol. 8, No. 8,  
August 1959

Unclassified

BEJVL, K.

"Machine tools and their electric equipment at this year's Basel Fair." p. 791.

STROJIRENSTVI. (MINISTERSTVO TEZKEHO STROJIRENSTVI, MINISTERSTVO PRESNEHO  
STROJIRENSTVI A MINISTERSTVO AUTOMOBILOVEHO PRUMYSLU A ZEMEDELSKYCH STROJU.)  
Praha, Czechoslovakia, Vol. 5, no. 10, Oct. 1955.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.  
Uncl.



BEJVI, K.

Electric equipment of machine tools at the Olympia 56 Exhibition. p. 94.  
(Elektrotechnik, Vol. 12, no. 3, March 1957. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions. (EEAL) LC. Vol. 6, No. 6,  
June 1957. Uncl.

BEJVL, Karel

Machine tools. Lesson 11, pt. 1. Elektrotechni 19 no. 1: Suppl.:  
Kurs elektrotechnických schemat 19 no. 1: 217-232 1964.

BEJVL, Karel

Machine tools. Elektrotechnik 19 no.2: Supplement: Kurs electrotechnických schemat. Lesson 11. F'64.

BEJVL, Karel

Machine tools. Pt. 3. Elektrotechnik 19 no. 3:  
Supplement: Kurs elektrotechnických schemat. 249-264  
Mr '64.

BEJV., Karel

Machine tools, Pt. 4. Elektrotechnik 19 ' .4:Suppl:Kurs  
elektrotechnických schém :265-280 Ap '64.

CZECHOSLOVAKIA

BALOUN, Jan; BEJSOVCOVA, Ludmila; MESSERSCHMIDTOVA, Alzbeta; Chair of Plant Physiology, Faculty of Natural Sciences, Comenius University (Katedra Fyziologie Rastlin Prirodovedeckej Fakulty Univerzity Komenskeho), Bratislava.

"Some Factors Influencing the Accuracy of the Determination of Tannins in Vegetable Materials by Biological Methods."

Bratislava, Biologia, Vol 21, No 7, 1966, pp 522 - 528

Abstract: The only materials of phenolic nature that normally accompany tannins in vegetable materials and coagulate human erythrocytes are pyrogallol and pyrocatechol. The conglutination effect of these substances is much lower than that of tannin, so that their presence does not interfere with the determination of gallotannins in vegetable materials. The readiness of erythrocytes to react with tannins decreases with the period of their storage in refrigerators. Erythrocyte suspensions used analytically should be less than 1 day old. 7 Tables, 4 Western, 5 Czech, 1 Polish reference. (Manuscript received 20 Nov 65).

1/1

- 6 -

1 05102-67

ACC NR: AP6032831 (A) SOURCE CODE: CZ/0078/66/000/007/0018/0018

AUTHOR: Bek, Edvard (Engineer; Prague)

ORG: none

TITLE: Seismologic instrument for recording and signalling seismic pulses.  
CZ Pat. No. PV 4161-65

SOURCE: Vynalezky, no. 7, 1966, 18

TOPIC TAGS: seismologic instrument, lf amplifier

ABSTRACT: Equipment for recording and signalling seismic impulses in the acoustic frequency between 10 and 6000 cycles is described. A circuit connected to the pulse source indicates changes in input voltage. The circuit contains an electromagnetic sensing unit connected in series with a low-frequency class-B amplifier, a milliammeter and the d-c source. A loudspeaker may also be included. The low-frequency class-B amplifier, the amplitude multiplier, and the timing relay attached to the battery are connected in series to the input pulse source.

SUB CODE: 0: 08, 14/ SUBM DATE: 28Jun65/

Card 1/1 *Edh*

L 06096-67

ACC NR: AP6017899

(A)

SOURCE CODE: CZ/0078/65/000/012/0017/0017

INVENTOR: Bek, Eduard (Engineer; Prague); Charbula, Karel (Engineer; Prague)

23  
B

ORG: none

TITLE: [Device for recording seismic acoustic pulses] CZ Pat. No. PV 4495-64, Class 42

SOURCE: Vynalezky, no. 12, 1965, 17

TOPIC TAGS: recording equipment, recording paper, seismic wave, seismograph, seismologic instrument, seismology

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ABSTRACT: A method of recording seismoacoustic pulses is described in which elastic vibrations of audio frequencies of from 10 - 6,000c are transformed by an electromagnetic sensing element into electric vibrations which are then amplified. The distinguishing feature of the method is that changes in the input voltage in the push-pull amplifier in which the grid overvoltage is approximately equal to the cutoff overvoltage are converted into changes in the feed direct current which are recorded by the recording device.

SUB CODE: 08,09,17/ SUBM DATE: 07Aug64

Card 1/1 LC



BK, Eugenia

Analysis of patients treated at the Postgraduate Education  
Clinic in 1960. Gruslica 30 no.6:531-537 '62.

1. Z Kliniki Ftisjatrii Studium Doskonalenia Lekarzy (SDL)  
w AM i se Szpitala im. dr A. Sokolowskiego w Lodzi Kierownik:  
prof. dr med. M. Zierski.

(LUNG DISEASES) (TUBERCULOSIS, PULMONARY)  
(STATISTICS) (DIABETES MELLITUS)  
(CARCINOMA, BRONCHOGENIC) (PNEUMONIA)  
(PEPTIC ULCER) (BRONCHIECTASIS) (PNEUMOTHORAX)  
(LUNG ABSCESS) (CARDIOVASCULAR DISEASES)

BEK, Eugenia

Intolerance and toxicity of substitute antibacterial drugs.  
Gruzlica 31 no.6:645-651 Je'63.

1. Klinika Ftizjatrii SDL, Lods.

ZIERSKI, Marian, BEK, Eugenia; SIWINSKA, Irena; WOZNIAK, Stefania

One-year results of antibacterial therapy of recently discovered cavernous pulmonary tuberculosis. Gruzlica 32 no.2:97-105 P'64

1. Z Katedry i Kliniki Ftizjatrii Studium Doskonalenia Lekarzy AM w Lodzi; Kierownik: prof.dr.med. M.Zierski.

\*

ZIERSKI, Marian; BEK, Eugenia; STACHLEWSKA, Stanisława; WANAT-KONDRATOWICZ, Władysława; WOZNIAK, Stefania; ZACHARA, Anna

Evaluation of results of antibacterial therapy of patients with recently diagnosed pulmonary tuberculosis under clinical conditions. Gruzlica 32 no.8:621-625 Ag '64.

1. Z Katedry i Kliniki Ftizjatrii Studii Doksztalcenia Lekarzy Akademii Medycznej w Szpitalu im. dr. A. Sokolowskiego w Łodzi (Kierownik: prof. dr. med. M. Zierski).

BEK, Eugenia; ZACHARA, Anna

The effect of chemotherapy on the early bacteriological results  
in patients discharged from the clinic in 1962-1963. *Cruzlica*  
32 no.11:961-965 N '64

1. Z Katedry i Kliniki Fizjatrii Studium Doskonalenia Lekarzy  
Akademii Medycznej w Szpitalu im. dr. A. Sokolowskiego w Lodzi  
(Kierownik: prof. dr. med. M. Zierski).

BEK, Eugenia; WANAT-KONDRATOWICZ, Wladyslawa; STACHLEWSKA, Stanislaw;  
ZACHARA, Anna

Evaluation of the results of chemotherapy in the outpatient  
Clinic for treatment of newly discovered cases of pulmonary  
tuberculosis in 1959-1962. Gruzlica 32 no.11:981-988 N '64

The effect of correct classical chemotherapy on the healing of  
tuberculous cavities. Ibid.:989-999

1. Z Katedry i Kliniki Ftizjatrii Studium Doskonalenia Lekarzy  
Akademii Medycznej w Szpitalu im. dr. A Sokolowskiego w Lodzi  
(Kierownik: prof. dr. med. M. Zierski).

BEK, Eugenia; PLKBANEK, Wieslawa

The treatment of newly discovered pulmonary tuberculosis in patients over 60 years of age. Gruzlica 32 no.11:975-980 N '64

1. Z Katedry i Kliniki Ftizjatrii Studium Doskonalenia Lekarzy Akademii Medycznej w Szpitalu im. dr. S. Sokolowskiego w Lodzi (Kierownik prof. dr. med. M. Ziarski).

BEK, G. (g.Roudnitse-na-Labe, Chekhoslovakiya)

New rolling stock on the railroads in Czechoslovakia. Elek.  
i tepl. tiaga 5 no.8:47 Ag '61. (MIRA 14:9)  
(Czechoslovakia--Railroads--Rolling stock)



BEK, G. (Roudnitse-na-Labe)

New Czechoslovakian locomotives. Elek. i tiaga 6 no.11:45  
N '62. (MIRA 16:1)

(Czechoslovakia--Locomotives)

BEK, G. [Bek, H.]

New astronomical instrument (from "Wissen und Leben"), Nauka  
i slyttia 12 no.2:54 F '63. (MIRA 16:4)

(Television in astronomy) (Telescope)

HUNGARY / Inorganic Chemistry. Complex Compounds. C

Abs Jour: Ref Zhur-Khimiya, No 21, 1958, 70339.

Author : ~~Bek~~ Khun.

Inst : Not given.

Title : Certain Specific Points in the Function of Complexing.

Orig Pub: Magyar kem. folyoirat, 1958, 64, No 2, 62 - 65.

Abstract: The authors point out that the function of formation which is determined according to Bjerrum by the equation  $\bar{n} = n - \frac{1}{2}$  has no specific chemical value if  $\bar{n}$  is a whole number and corresponds to a maximum concentration of the respective complex.

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BEK, A.

"Szosa Wołokołamska" (The Wołokołamsk highway), by A. Bek. Reported in  
New Books (Nowe Książki), No. 13, July 1, 1955

**AUTHOR:** BKK, A. PA - 2774  
**TITLE:** Outstanding Expert of Blast Furnace Technique.  
(Wydayushchiysya master domennogo dela, Russian)  
**PERIODICAL:** Metallurg, 1957, Vol 2, Nr 4, pp 39 - 41 (U.S.S.R.)  
Received: 5 / 1957 Reviewed: 6 / 1957

**ABSTRACT:** M.K.KURAKO was born in 1812 of noble descent and fled from his parental home at the age of fifteen and began to work at a metallurgical plant in yekaterinoslav. He gained experience at various plants which sprang up in the south just at that time. In a plant near Mariupol he became acquainted with furnace equipment of the American type as a furnace foreman. KURAKO soon made a name for himself by his ability of removing blast-furnace scow, and other defects. At the Borsig-plant in Kramatorskaya he was offered the post of manager of the blast furnace department. He accepted on the condition that extra profits should be used for the re-equipment of the furnace. After experiments extending over several years he created a charging apparatus "system KURAKO" and soon achieved excellent results by its application. Later, however, he experienced reverses. Together with his devoted collaborators, he was always able to cope with arising difficulties, sometimes even by staking his life. After several years of interruption caused by arrest and exile in Northern Russia in connection with the revolution of 1905 KURAKO returned to the south this time as manager of the blast furnace department in Yuzovka. His

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**Outstanding Expert of Blast Furnace Technique.**

PA - 2774

department was known under the nickname "KURAKIN's Academy". Students of all universities fought for a chance to do practical work under him. KURAKO kept pace with modern developments and watched technical progress in the whole world. Among other things he had a vast collection of technical drawings of old blast furnaces, long ago out of action of all countries, the only one of its kind in Russia. KURAKO subscribed to all sorts of foreign scientific periodicals and employed a translator. The translations were copied and distributed among his students. KURAKO approved of a great deal of independence of his subordinates. KURAKO established several metallurgical plants, unfortunately only on paper. A short time before the revolution of 1917 he went to Siberia, where he was to carry out the projecting of the first foundry in the basin of Kuznetsk, but building was never begun because of numerous difficulties. He contracted spotted fever and died in 1930.

**ASSOCIATION:** Not given

**PRESENTED BY:**

**SUBMITTED:**

**AVAILABLE:** Library of Congress

Card 2/2

BEK, Aleksandr A.; GRIGOR'YEV, Grigoriy A.

[Mikhail Konstantinovich Kurako; biographical sketch] Mikhail  
Konstantinovich Kurako; biograficheskii ocherk. Moskva, Gos.  
nauchno-tekhn. izd-vo lit-ry po cherno i tsvetnoi metallurgii,  
1953. 166 p. (MLRA 7:6)  
(Kurako, Mikhail Konstantinovich, 1872-1920)

ZIERSKI, Marian; BEK, Eugenia

Pneumothorax treatment in case of early pulmonary tuberculosis.  
Gruzlica 24 no.8:679-691 Aug 56.

1. Z Poradni Przeciwgrusliczej dla Młodzieży Akademickiej i z  
Kliniki Ftyzjatrycznej Instytutu Doskonalenia i Specjalizacji  
Kadr Lekarskich w Łodzi. Kierownik: doc. dr. med. M. Zierski.  
(PNEUMOTHORAX, ARTIFICIAL, statist.  
in early pulm. tuberc.)



EXCERPTA MEDICA Sec 15 Vol. 10/8 Chest Diseases Aug 57

1914. BEK E. and BUKALSKA Z. Zakł. Fizj. I. D., S. K. L., Szpit. Specjalist. Łódź.  
\*Gruźlica płuc z współistniejącym rakiem oskrzeli. Pulmonary tubercu-  
losis coexisting with bronchial carcinoma GRUŻLICA 1958,  
24/12 (1213-1217) Illus. 6

Two cases of active pulmonary tb coexisting with bronchogenic carcinoma are re-  
ported; clinical diagnosis was confirmed by necropsy. In case 1, the malignant  
changes originated initially probably from the wall of a tuberculous cavity. In case  
2, it seems that the development of carcinoma activated arrested tuberculous foci  
in the lung. It is pointed out that the incidence of active tb combined with pulmonary  
malignancy is increasing, particularly since the peak of tb mortality shifts to older  
age groups.  
(XV, 5, 16)

BKK, M. (Lodz, ul, Kosynierow Gdynskich 20.)

Unusual course of pulmonary carcinoma. Gruzlica 26 no.8:711-714 Aug 58.

1. Z Zakladu Fizjatrii Instytutu Doskonalenia i Specjalizacji Kadr  
Lekarskich w Lodzi Kierownik: doc. dr med. M. Zierski.

(LUNG NEOPLASMS, case reports  
unusual case (Pol))

BK, G. (g.Roudnitse na Labe, Chekhoslovakiya)

New Czechoslovakian locomotives and electric trains. Elek. i topl.  
tiaga 4 no. 12:43 D. '60. (MIRA 14:1)  
(Czechoslovakia--Rolling stock)

BEK, G. (Roudnice-Lab)

New locomotives of the Czechoslovak Railroads. Elek.1  
tepl. tihga 6 no.4:39 Ap '62. (MIRA 15:5)  
(Czechoslovakia--Locomotives)

BEK, Jan, mgr., inż.

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The influence of knife-edge curvature on some metrological properties of balance. Pomiary 8 no.4:170-173 Ap '62

1. Zakład Metrologii Przemysłowej Politechniki Warszawskiej

BEK, Jindrich

Experience with the flat steam exhaust system on locomotives.  
Zel dop tech ll no.7:209-210 '63.

BEK, J.

Railroads and progressive mechanization. p. 64. ZELEZNICAR.  
(Ministerstvo dopravy) Praha. Vol. 6, No. 3, Mar. 1956.

SOURCE: East European Accessions List. (EEAL)  
Library of Congress Vol. 5, No. 12.  
December 1956.

BEK, J.

The development of steam locomotives. p.197. (Zeleznicar. Praha. Vol. 6, no. 8, Aug. 1956.)

SO: Monthly List of East European Accessions (EEAL) IC.Vol. 6, no. 7, July 1957. Uncl.



BEK, J.

Headlights and whistle. p.81. (Zeleznicar. Praha. No. 3, Mar. 1957.)

SO: Monthly List of East European Accessions (EEAL) IC., Vol. 6, no. 7, July 1957. Uncl.

BEK, J.

"German Democratic Republic and its railroads." p. 158.

ZELEZNICAR. (Ministerstvo dopravy). Praha, Czechoslovakia, No. 6, June 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,  
August 1959.  
Uncla.

BEK, J.

The Surami Pass. p. 128.

ZELEZNICAR. (Ministerstvo dopravy) Praha, Czechoslovakia, No. 5, May 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 7, July 1959  
UNCL

BEK, J.

Seminar on the usefulness of electronic measuring instruments.  
Pomiary 9 no.2:86 F '63.

BEK, Jan, mgr inż.

The Warsaw Polytechnic for the Polish national economy.  
Pomiary 9 no.2:63-64 F '63.

1. Katedra Metrologii Energetycznej, Politechnika, Warszawa.

KRAMBROWICKI, Jerzy, mgr.inz.; OBAISEN, T.; B.K., J., mgr inz.; WIKOSZEWSKI,  
Jerzy; KOWALCZYK, Ryszard, mgr inz.

Review of publications. Pomiar 10 no.8:370-373 J1'64

BEK, L. O.

N/5  
729.411  
.B4

POLEZASHCHITNOYE LESORAZVEDENIYE V SSSR (PROTECTIVE AFFORESTATION IN THE USSR) MYUNKHEN, 1957. 117 p. MAP (ISSLEDOVANIYA I MATERIALY, SER. 2 (ROTATORNYYE IZD.) NO. 56) AT HEAD OF TITLE: INSTITUT PO IZUCHENIYU ISTORII I KULTURY SSSR. SUMMARIES IN ENGLISH, GERMAN AND GRENCH. BIBLIOGRAPHICAL FOOTNOTES.

CHISTOV, A.D.; BAZARNOVA, G.V.; BEK, N.D.; BELIKOVA, V.I.; BLINOVA, M.Ya.;  
KABANOVA, P.G.; MAKAROVA, M.D.; PRIPISTSOVA, K.D.; SIMONOVA, L.F.;  
TOLKACHEVA, Ye.M.; TYUNYAYEVA, V.V.; ZINCHENKO, V.S., red.izd-va;  
PAVLOVSKIY, A.A., tekhn.red.

[Foreign trade of the U.S.S.R. for 1918-1940; statistical survey]  
Vneshniaya torgovlia SSSR za 1918-1940 gg.; statisticheskiy obzor.  
Moskva, Vneshtorgizdat, 1960. 1134 p. (MIRA 13:10)

1. Russia (1923- U.S.S.R.) Glavnoye tamozhennoye upravleniye.
2. Otdel statistiki Glavnogo tamozhennogo upravleniya Ministerstva  
vneshney torgovli SSSR (for all, except Zinchenko, Pavlovskiy).  
(Commercial statistics)



*BEK, R. Yu.*

B-12

USSR/Physical Chemistry - Electrochemistry.

Abs Jour : Referat Zhur - Khimiya, No 6, 25 March 1957, 18704

Author : Kudryavtsev, N.T., Bek R.Yu., and Kushevich, I.F.

Inst : Zh. fiz. khimii, 1952, 26, No 2.

Title : Reasons of Formation of Zinc Sponge Upon Cathodes of Zinc-Containing Electrolytes at Currents of Low Densities

Orig Pub : Tr. Mosk khim-tekhnol. in-ta, 1956, vyp. 22, 137-142

Abstract : The mechanism of Zn-sponge formation on a cathode, at low densities of current, in zinc-containing electrolytes and, in particular, the part played by anodes and ions of nobler metals and oxidizing agents, is investigated. It is shown that when electrolysis is carried on with insoluble anodes (Pt and Ni) the sponge is formed only at the upper part of cathode near the boundary of the electrolyte with air, and that when electrolysis is carried on with Zn-anode the sponge is formed over the whole surface. When the anode and cathode spaces are

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CAUSES OF SPONGE FORMATION ON CATHODES IN STRONG  
SULFURIC ACID

The formation of a spongy deposit on the cathode in a strong sulfuric acid solution is a well-known phenomenon. It is usually observed when the current density is high and the temperature is low. The spongy deposit is composed of a porous network of hydrogen gas and metal. The formation of the spongy deposit is a result of the high rate of hydrogen evolution at the cathode. The hydrogen gas bubbles are trapped in the metal lattice, forming a porous structure. The spongy deposit is usually observed on the cathode of a lead-acid battery during charging.

the electrode, no spongy deposit formed on the cathode leg. The addition of 20 g/l HgSO<sub>4</sub> to the electrolyte

stages when the current density is high. The spongy deposit formed on the cathode leg of the battery.

S/153/60/003/005/010/016  
B013/BC58

AUTHORS: Bek, R. Yu., Kudryavtsev, N. T.

TITLE: Effect of Alternating Current in Electrodeposition of Zinc, Lead, and Tin From Alkaline Electrolytes

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniv. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 5, pp. 898-901

TEXT: The effect of superposition of a.c. over d.c. during electrodeposition of zinc, lead, and tin from alkaline electrolytes was studied here. The following electrolytes were used: 1) 0.25 N Zn, 2.5 N NaOH<sub>summ</sub> without addition; 2) 0.25 N Zn, 2.5 N NaOH<sub>summ</sub>, 0.5 g/l Sn (calculated per metal); 3) 0.8 N Pb, 4 N NaOH<sub>summ</sub>, 50 ml/l glycerin; 4) 80 g/l Na<sub>2</sub>SnO<sub>3</sub>, 10 g/l NaOH<sub>free</sub> without additions. The temperature of all solutions was 50°C. Zinc and tin were deposited on polished steel, lead on polished brass. The experiments showed that the development of spongy growth on zinc electrolytes may be entirely prevented without additions by

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Effect of Alternating Current in Electro-  
deposition of Zinc, Lead, and Tin From  
Alkaline Electrolytes

S/153/60/003/005/010/016  
B013/B058

applying a.c. with a frequency of 20-300 cycles and at a higher current density than that of d.c. A smooth, semibrilliant deposit with characteristic "parquet" structure was ascertained at a current density ratio between a.c. and d.c.  $D_{\sim}/D_{-} = 2 - 3$ , and a frequency of 20-70 cycles. The crystal boundaries become less distinct at  $D_{\sim}/D_{-} > 10$ . Signs of spongy growth appear at frequencies of 300-500 cycles. The effect of a.c. disappears at an addition of tin (0.5 g/l) or lead (0.06 g/l), and the deposits show fine-crystalline structure. Under otherwise equal conditions, the formation of spongy growth is intensified when a.c. is applied during electrodeposition of tin from stannate solution. Electrodeposition of lead from alkaline electrolyte with glycerin addition is not influenced by applying a.c. It was ascertained that cathodic and anodic polarization is reduced (by 4-5 mv) by the application of a.c., this reduction being intensified at a higher  $D_{\sim}/D_{-}$  ratio and a lower a.c. frequency. It was further ascertained that the application of a.c. with a frequency of 50 cycles at  $D_{\sim}/D_{-} = 2-10$  does not influence the current yield of metal. It amounts to 99-99.5% just as during electrolysis without application of a.c. K. M. Gorbunova is mentioned. There are 2 figures and 11 Soviet references. ✓

Card 2/3

Effect of Alternating Current in Electro-  
deposition of Zinc, Lead, and Tin From  
Alkaline Electrolytes

S/153/60/003/005/010/016  
B013/B058

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im.  
D. I. Mendeleeva, Kafedra elektrokhimii (Moscow Institute  
of Chemical Technology imeni D. I. Mendeleev, Department  
of Electrochemistry)

SUBMITTED: May 6, 1959

Card 3/3

34380

S/539/61/000/032/005/017  
D202/D301

5.4700  
AUTHORS:

Kudryavtsev, N.T., Bek, R.Ya. and Tarasevich, M.R.

TITLE:

The effect of periodical reversal of current direction on the concentration polarization

SOURCE:

Moscow. Khimiko-tehnologicheskii institut. Trudy, no. 32, 1961. Issledovaniya v oblasti elektrokhimii, 79-84

TEXT: The authors aimed at verification of the opinion of previous investigators that current reversal has a favorable effect on the speed of electrolysis and properties of the electro deposits. In the authors' opinion, current reversal, although it decreases polarization, causes periodically the dissolution of some part of the deposit; therefore, the total deposition rate is lowered. If the ratio of times of switch-on of cathodic and anodic current is  $K = \frac{t_c}{t_a}$ , then the rate of electrolysis would not be determined by the working current density  $D_w$ , but a value

$D_{ef} = D_w \cdot \frac{k - 1}{k + 1}$ , (effective current density): The authors compared the

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D202/D301

The effect of periodical ...

concentration polarization during electrolysis with direct current to that at electrolysis with reversing current, both processes having the same  $D_{ef}$ . They investigated these processes on silver nitrate solutions:  $AgNO_3$  (0.05M)  $NaNO_3$  (1 M) at pH = 1 and on equimolecular  $K_3Fe(CN)_6$  and  $K_4Fe(CN)_6$  solutions on an apparatus permitting 2 to 3000 rev.p.m. with a constant k ratio; the dependence of potential and current intensity was registered by a tape oscillograph. The effect of current reversals in  $AgNO_3$  solutions has been studied at  $D_w = 0.5 \text{ a/dm}^2$ , with  $k = 6.39$  and  $16.4$  at  $30^\circ$  and  $50^\circ C$ .  $D_{ef}$  for  $k = 6.39$  was  $0.36 \text{ a/dm}^2$  and for  $k = 6.4$   $0.44 \text{ a/dm}^2$ . During electrolysis with direct current =  $0.5 \text{ a/dm}^2$  at  $30^\circ C$  a spongy deposit was formed, but with current density of  $0.36 \text{ a/dm}^2$  the deposit was compact. At  $50^\circ C$  it was compact in both cases. When reversible current was applied ( $k = 6.39$ , temp.  $30^\circ C$ ) a sponge was formed on the cathode when less than 10 rev.p.m. were used, but with higher reversal rates, a compact deposit was obtained; at  $50^\circ C$  such a deposit

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D202/D301

The effect of periodical ...

was formed in both cases. The same phenomena were observed with  $k = 16.4$ . Similar results have been obtained with a mixture of ferrocyanide and ferricyanide ions. It is seen from the obtained oscillographs and corresponding graphs that with increasing reversal rate up to 60 per min., the concentration polarization is decreasing; further increase in alternation having but a very slight effect. At alternation rates up to 60 rev. per min. this polarization has a much larger value than when d.c. is applied, when its density is equal to  $D_{ef}$ ; at an alternation rate

higher than 60 rev./min. the value of concentration polarization approaches that obtained with d.c. In the author's opinion, this may be explained as follows: During the switch-on of anodic current, the ionic concentration on the cathode is increased by a partial dissolution of the metallic deposit and by ions diffusing from the bulk of solution; the polarization is lowered, the current density increases, and the loss of deposit is balanced by an increase in the speed of electrolysis. If the current reversal rate is low, after the concentration in the diffusion layer is restored, the ions would tend to diffuse into solution and the

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The effect of periodical ...

S/539/61/000/032/005/017  
D202/D301

polarization would increase. Therefore, the rate of electrolysis may be increased by reversing current only when it alternates very rapidly. The authors conclude that from the point of view of reagent supply to the cathode current reversal cannot be regarded as a means for intensification of electrolytic processes. There are 5 figures and 11 references: 7 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: G.W. Jernstedt, Steel, 120, no. 17, 100-1D2, 134, (1947); A. Hickling and H.P. Rothbaum, Trans. Inst. Metal Finish, 34, 53 (1957).

Card 4/4

S/539/61/000/032/008/017  
D258/D301

AUTHOR: Kudryavtsev, N.T., and Bek, R.Yu.  
TITLE: The influence of alternating current in the electro-  
deposition of zinc, lead, and tin from alkaline solutions  
SOURCE: Moscow. Khimiko-tehnologicheskii institut. Trudy, no.  
32, 1961, Issledovaniya v.oblasti elektrokhemii, 255-258

TEXT: The authors aimed at improving the texture of electrodeposited Zn, Pb, and Sn by using alternating current superimposed onto direct current. This was done in view of the known formation of spongy deposits on the cathode occurring during the electrodeposition of Zn from NaOH solution, even when operating at current densities, lower than the limiting value. Specifically, Zn and Sn were deposited on polished steel cathodes, Pb - on polished brass. The current densities (C.D.) used were: 0.2 - 0.5 Amp/dm<sup>2</sup> for Zn; 0.2-4 Amp/dm<sup>2</sup> for Pb; and 0.2-5 Amp/dm<sup>2</sup> for Sn. The electrolytes had the following compositions: (1) Zn - 0.25N (ZnSO<sub>4</sub>·7H<sub>2</sub>O); NaOH (total) - 2.5 N. (2) Zn 0.25N (ZnSO<sub>4</sub>·7H<sub>2</sub>O) NaOH<sub>tot.</sub> 2.5N; Sn-0.5g/l  
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S/539/61/000/032/008/017  
D258/D301

The influence of alternating ...

(3) Pb-0.8N; NaOH<sub>(total)</sub>-4N; Glycerol - 50 cm<sup>3</sup>/l. (4) Na<sub>2</sub>SnO<sub>3</sub> - 80 g/l; NaOH<sub>(free)</sub>-10 g/l. Smooth and semi-lustrous Zn deposits were obtained on operating with an a.c. frequency of 20 to 70 c/s and at ratio, C.D. a.c./C.D. d.c. of 2-3. Deposits obtained in that way from solution (1) showed clearly outlined crystal boundaries; at higher frequencies, the crystalline regularity decreases. Spongy deposits appear at a frequency of 300-500 c/s and the beneficial effect of a.c. vanishes completely at 800-1000 c/s. The addition of Sn (solution no. 2) or Pb had an adverse effect on the quality of deposited Zn. The application of a.c., at 20-300 c/s and C.D. a.c./C.D. d.c.  $\approx$  1 on the deposition of Pb from solution no. 3 had no effect at all, while deposition of Sn from solution no. 4 was adversely affected, under the same conditions. The adverse effect on Sn vanished at frequencies, higher than 300 c/s. The effect of a.c. on cathodic and anodic polarization was investigated in solution no. 2. At 50°C and without stirring, both anodic and cathodic polarizations were decreased by 2-5 mV, on using a C.D. a.c./C.D. d.c. ratio of 5. The higher

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The influence of alternating ...

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D258/D301

ratio had no effect at all. The current efficiency was almost independent of the type of current used. There are 4 figures and 12 references: 10 Soviet-bloc and 2 none-Soviet-bloc.

Card 3/3

BEK, R.Yu.; KUDRYAVTSEV, N.T.

Effect of alternating current on the electrodeposition of zinc.  
Zhur.prikl.khim. 34 no.9:2013-2020 S '61. (MIRA 14:9)  
(Zinc plating) (Electric currents, Alternating)

BEK, R.Yu.; KUDRYAVTSEV, N.T.

Effect of the periodical change of the direction and pulsation  
of a current on the electrodeposition of zinc from zincate so-  
lutions. Zhur.prikl.khim. 34 no.9:2020-2027 S '61. (MIRA 14:9)  
(Zinc plating) (Electric currents)

KUDRYAVTSEV, N.T.; BEK, R.Yu.; TARASEVICH, M.R. (Moskva)

Effect of periodic reversal of current on concentration  
polarization. Zhur. fiz. khim. 35 no.7:1507-1511 JI '61.  
(MIRA 14:7)

1. Khimko-tekhnologicheskiy institut im. D.I.Mendeleyeva.  
(Electroplating) (Polarization (Electricity))

KUDRYAVTSEV, N.T.; BEK, R.Yu.; GUREVICH, M.A.

Electrodeposition of silver by alternating current. Zhur.prikl.-  
khim. 35 no.3:553-562 Mr '62. (MIRA 15:4)

(Silver plating)



KUDRYAVTSEV, N.T.; ~~EEK, R. Yu.~~

Effect of the ratio  $\omega/\omega_0$  on the cathodic process of silver  
electrodeposition from cyanide electrolytes when superposing  
the alternating over the direct current. Zhur.prikl.khim.  
35 no.5:1030-1035 My 1962. (REF ID: A51515)  
(Silver plating) (Cyanides) (Nitrates)

1.180  
24.3950

41550  
S/076/62/036/010/003/005  
B101/B186

AUTHORS: Bek, R. Yu., Gamburg, Yu. D., and Kudryavtsev, N. T.

TITLE: Electrodeposition of bright copper with superposition of a-c on d-c

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 10, 1962, 2244-2245

TEXT: The effect of a nickel sublayer on the brightness of electrodeposited copper was studied. A bright nickel sublayer was obtained from an electrolyte containing 170 g/l  $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$ , 30 g/l  $\text{H}_3\text{BO}_3$ , 12 g/l KCl, and 6 g/l naphthalene disulfonic acid with a pH of 4 - 6, at a current density given by V. V. Ostroumov and I. F. Plokhotnikova (Zh. prikl. khimii, 1520, 1668, 1958). However, copper deposited on it from an electrolyte containing 200 g/l  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  and 100 g/l  $\text{H}_2\text{SO}_4$  stayed matt even when quinaldine or coumarone had been added to the nickel electrolyte. Polishing of the sublayer was also ineffective. Increase in the current density to 13 - 17  $\text{ma/cm}^2$  at 18°C and to 21  $\text{ma/cm}^2$  at 25°C caused the

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Electrodeposition of bright copper with ...

S/076/62/036/010/003/005  
B101/B186

formation on the nickel of a matt, bluish thin coating of Ni oriented along the (011) axis. At an optimum ratio  $D_{a-c}/D_{d-c} = 1.10 - 1.15$ , very bright copper deposits with a high reflecting power were obtained on such sublayers with a thickness not less than  $7 - 8 \mu$ . Increase of the ratio to more than 1.2, reduced the brightness and a change in the d-c density from 3 to  $10 \text{ a/dm}^2$  had no effect as long as  $D_{a-c}/D_{d-c}$  remained unchanged. ✓

An X-ray analysis shows that the bright copper plating obtained by a-c superposition is oriented along the (125) axis and its texture could be characterized in individual cases as quasi-microcrystalline, whereas copper deposited on a non-oriented Ni sublayer has a texture oriented along the (011) axis. This confirms the assumption of Ostroumov and Plohotnikova that the sublayer structure has an orienting effect on the crystallization of the first copper layer. The authors, however, assume that the orienting effect depends not on cathode passivation, but on other factors, such as a reduced oversaturation with a-c during electrolysis, which means a shift in conditions for the formation of seed crystals toward equilibrium. There are 2 figures.

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Electrodeposition of bright copper with...  
S/076/62/036/010/003/005  
B101/B186

ASSOCIATION: MKhTI im. D. I. Mendeleeva, Kafedra elektrokhimicheskikh  
produktov (MKhTI imeni D. I. Mendeleev, Department of  
Electrochemical Productions)

SUBMITTED: February 16, 1962

Card 3/3

BEK, R. YU.

Dissertation defended for the degree of Candidate of Chemical Sciences  
at the Institute of Physical Chemistry in 1962:

"Investigation of Electrodeposition of Zinc and Silver as an Electrolyte  
Using Alternating Current."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

BEK, R.Yu.; GAMBURG, Yu.D.; KUDRYAVTSEV, N.T.

Electrodeposition of bright copper in the case of the superimposition of the alternating over direct current. Zhur.fiz.khim. 36 no.10: 2244-2245 0 '62. (MIRA 17:4)

1. Moskovskiy khimiko-tehnologicheskii institut imeni Mendeleeva, kafedra elektrokhimicheskikh proizvodstv.

BEK, R.Yu.; KUDRYAVTSEV, N.T.; NECHAYEV, Ye.A.

Cathodic polarization in the electrodeposition of silver from  
ferrocyanide electrolytes. Zhur. fiz. khim. 36 no.11:2506-  
2508 N'62. (MIRA 17:5)

1. Moskovskiy khimiko-tehnologicheskii institut imeni  
D.I. Mendeleeva.

BEK, R.Yu.; NECHAYEV, Ye.A.; KUDRYAVTSEV, N.T.

Cathodic electrodeposition of silver. Zhur. fiz. khim. 39 no.3:628-630  
Mr '65. (MIRA 18:7)

1. Khimiko-tehnologicheskii institut imeni Mendeleeva, Moskva.



GNUSIN, N.P.; Primal uchastiye BEK, R.Yu.

Valve effect of diffusion for a metal immersed in a solution of its ions.  
Zhur. fiz. khim. 39 no.3:780-783 Mr '65. (MIRA 18:7)

1. Khimiko-metallurgicheskiy institut Sibirskogo otdeleniya AN SSSR.

NECHAYEV, Ye.A.; BEK, R.Yu.; KUDRYAVTSEV, N.T.

Electrodeposition of silver from complex electrolytes. Part 1:  
Method of studying the kinetic parameters and capacity of the  
double electrical layer in the process of silver electrodeposition.  
Elektrokhimiya 1 no.11:1325-1331 N '65. (MIRA 18:11)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni  
Mendeleeva i Institut fiziko-khimicheskikh osnov pererabotki  
mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR.

NECHAYEV, Ye.A.; BEK, R.Yu.; KUDRYAVTSEV, N.T.

Process of silver electrodeposition from complex electrolytes.  
Part 2: Relation between the structure of the deposit and  
the capacity of the electric double layer in the electrolytic  
silver plating from cyanide electrolytes. Elektrokimiia 1  
no.12:1443-1448 D '65. (MIRA 19:1)

1. Moskovskiy Khimiko-tekhnologicheskii institut imeni D.I.  
Mendeleeva i Institut fiziko-khimicheskikh osnov pererabotki  
mineral'nogo syr'ya Sibirskogo otdeleniya AN SSSR. Submitted  
January 25, 1965.

NECHAYEV, Ye.A.; BEK, R.Yu.; KUDRYAVTSEV, N.T.

Some features of the process of silver electrodeposition  
on platinum. Elektrokhimiya 1 no.12:1458-1461 D '65.

(MIRA 19:1)

1. Moskovskiy khimiko-tekhnologicheskii institut imeni D.I.  
Mendeleyeva. Submitted January 25, 1965.

I. 21592-66 EMT(m)/EWP(t) IJP(c) JD/JG

ACC NR: AP6012437

(N)

SOURCE CODE: UR/0364/65/001/012/1458/1461

AUTHOR: Nechayev, Ye. A.; Bek, R. Yu.; Kudryavtsev, N. T.ORG: Moscow Chemical Engineering Institute imeni D. I. Mendeleev (Moskovskiy khimiko-tehnologicheskii institut)TITLE: Some characteristics of the process of electroplating silver on platinum

SOURCE: Elektrokimiya, v. 1, no. 12, 1965, 1458-1461 18 27 27

TOPIC TAGS: silver, platinum, metal plating, electrolysis

ABSTRACT: The authors study the process of silverplating platinum to determine the cause for unsatisfactory quality in silver coatings on this metal and to find conditions for producing dense silver films at high current densities. The experiments were done in electrolytes with the following composition: Ag--0.25 N, NaCN--0.25-1.0 N, Na CO --0.5 N at  $t = 25-30^{\circ}\text{C}$  and  $i = 0.1-0.5 \text{ a/dm}^2$  without the application of alternating current, and  $i = 0.1-1.5 \text{ a/dm}^2$  with the application of alternating current with a frequency of 50 cps and  $i_{ac}/i_{dc} = 2.5$ . Plating quality was studied under a microscope. On the basis of the experimental data, the following plating conditions are recommended for producing high quality silver coating on platinum: electrolyte composition: Ag--0.25 N, NaCN--0.5 N,  $\text{Na}_2\text{CO}_3$ --0.5 N,  $i < 1.5 \text{ a/dm}^2$   $t = 20-25^{\circ}$ ; con-

Card 1/2

UDC: 621.357.7

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ACC NR: AP6012437

ditions for application of alternating current:  $i_{ac}/i_{dc} = 10-15$  in the first ten seconds of electrolysis and  $i_{ac} = i_{dc} = 2.0-2.5$  through the rest of the plating process. Orig. art. has: 3 figures. 0

SUB CODE: 11/

SUBM DATE: 25Jan65/

ORIG REF: 002/

OTH REF: 002

Card

2/2 BK

BEK, S.

Investigation of rocks and deposits of rocks by use of supersonic waves. p. 112.  
(Drogownictwo, Vol. 12, No. 5, May 1957, Warsaw, Poland)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 8, Aug 1957. Uncl.

L 46053-66 EEC(k)-2/EWT(d)/EWT(1)/FCC/FSS-2 OW/WS-2/GD

ACC NR: AT6022344

SOURCE CODE: UR/0000/66/000/000/0044/0052

AUTHOR: Bek, S. S.

ORG: None

TITLE: A method for analyzing dispersion distortions of a short pulse in the ionosphere ✓

SOURCE: Vsesoyuznaya nauchnaya sessiya, posvyashchennaya Dnyu radio. 22d, 1966. Sektsiya teorii i tekhniki peredachi diskretnykh signalov. Doklady. Moscow, 1966, 44-52

TOPIC TAGS: signal analysis, pulse signal, signal distortion, Gaussian distribution, ionospheric radio wave

ABSTRACT: A method is proposed for determining the general characteristics of dispersion distortions of a short pulse of any shape based on the mathematical properties of a Gaussian radio pulse and engineering formulas are derived for calculating the dispersion distortions of a short pulse in the ionosphere. Passage of radio pulses with a Gaussian envelope through a channel with quadratic phase characteristics is considered and a comparison of the output voltage with the initial pulse shows a reduction in pulse amplitude by  $\sqrt{V}$  and an increase in pulse duration by  $A$ , where  $A$  is the base of the pulse distorted by dispersion. This comparison also shows linear frequency

Cord 1/2

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5

modulation and the same Gaussian envelope as for the initial pulse. It is pointed out that dispersion distortions may theoretically be completely compensated by using a device with a negative dispersion equal to that of the channel. An expression is given for determining the base of a dispersion-distorted pulse of arbitrary shape and it is shown that the formulas derived in this paper may be used for engineering calculations involving pulse distortions of this type. It is shown that the dispersion factor for the ionospheric channel depends on selection of the working frequency and that dispersion may be reduced by lowering the working frequency with respect to that of the IF modulator. Analysis of the effect of dispersion and ionospheric nonhomogeneities shows that the specific weight of dispersion distortions is greater for short transmissions while the specific weight of distortions due to nonhomogeneities is greater for longer wave trajectories. The author thanks Doctor of Technical Sciences N. T. Petrovich, Candidate of Technical Sciences L. N. Korsunskiy, Candidate of Technical Sciences Ye. F. Kamnev, Candidate of Physical and Mathematical Sciences N. M. Beskin and Engineer Yu. P. Minin for useful consultation and criticism. Orig. art. has: 3 figures, 23 formulas.

SUB CODE: 09, 17/ SUBM DATE: 09Apr66/ ORIG REF: 004

Card 2/2 *gd*

BEK, T. V.

"Biological Properties of Bundles of Long-Fiber Flax." Cand Agr  
Sci, All-Union Inst of Plant Growing, All-Union Order of Lenin Acad  
Agricultural Sci imeni V. I. Lenin, Leningrad, 1955. (KL, No 8,  
Feb 55)

S0: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical  
Dissertations Defended at USSR Higher Educational Institutions  
(14)

BEK, Vladimir, inz.

Epoxy resins in the insulation of electric products. Kemija u industriji 11 no.4:181-188 '62.

1. Direktor sektora za istraživanja elektrotehničkog materijala "Rade Koncar", Zagreb.

BEK, Vladimir, inž.; ILIC, Anđelko, inž.

Some possibilities of applying melamine molding materials  
in electric industries. *Kemija u industriji* 11 no.8:501-505  
'62.

1. "Rade Koncar", Zagreb (for Bek).
2. "Chromos", Zagreb (for Ilic).

KOLAR, J.; JANEK, J.; JANOUSKOVA, M.; BEK, V.

A case of malignant mesenchymal tumors of somatic soft tissues with predominant structure of osteoplastic sarcoma. Acta chir. orthop. traum. cech. 31 no.2:134-138 Ap '64.

1. Radiologicka klinika fakulty vseobecneho lekarstvi KU [Karlova Universita] v Praze (prednosta prof. dr.V.Svab), II. klinika pro ortopedickou a detskou chirurgii fakulty detskeho lekarstvi KU [Karlova Universita] v Praze (prednosta prof.dr.O.Hnevkovsky) a II. patologickoanatomicky ustav fakulty vseobecneho lekarstvi KU [Karlova Universita] v Praze (prednosta prof. dr. V.Jedlicka).

HEK, Vaclav, Dr

Senile concentric limited osteotrophy of the dome of the skull.  
Cas.lek.cesk. 91 no.8:242-244 22 Feb 52.

1. Z radiologické kliniky Karlovy university v Praze. Prednosta:  
prof. dr. Vaclav Svab.

(CRANIUM, diseases,  
atrophy, concentric, senile)

HEK, Vaclav, Dr

Osteopetrosis Albers-Schonbergova. Cas.lek.cesk. 91 no.13:397-400  
28 Mar 52.

1. Z radiologicke kliniky K.U. Prednosta prof. dr. Vaclav Svab.  
(OSTEOSCLEROSIS)

BKK, Vaclav (Praha 13, Tr. SNB 89)

Cosmetic results of contact x-irradiation therapy of angiomas in children.  
Cesk. rentg. 13 no.1:31-38 Feb 59.

1. Radiologicka klinika EU v Praze, prednosta prof. dr. V. Svab.  
(ANGIOMA, in inf. & child  
contact x-ray ther., cosmetic results (Cz))  
(RADIOTHERAPY, in various dis.  
angiomas in child., technic & cosmetic results (Cz))



KOJAR, Jaromir; BFK, Vaclav

Cartilaginous exostoses on bones irradiated during growth. Cesk. rentg.  
13 no.3:174-175 June 59.

1. Radiologicka klinika Karlovy university v Praze, prednosta prof. dr.  
Vaclav Svab. J.K., Baranova 23, Praha 11.

(OSTEOMA, etiol. & pathogen.

x-ray ther. in child. (Cz))

(ROENTGEN RAYS, inj. eff.

osteoma in child. (Cz))

KOLAR, Jaromir; BEK, Vaclav

Effect of near-focus x-irradiation on the bone during therapy  
of angiomas in children. Cesk.rentg. 13 no.6:379-388 D '59.

1. Radiologicka klinika KU v Praze, prednosta prof.dr. V. Svab.  
(BONE AND BONES radiation eff.)  
(ANGIOMATOSIS radiother.)

ZAHN, Karel; BEK, Vaclav

Cataract as a sequel of the irradiation of peri-ocular angiomas  
by means of close-focus roentgen rays in children. Cesk. ofth.  
16 no.2:146-153 Mr '60

1. I. oční klinika KU v Praze, přednosta prof. dr. E. Dienstbier,  
radiologická klinika KU v Praze, přednosta prof. dr. V. Svab.  
(EYELIDS neopl.) (HEMANGIOMA in inf. & child)  
(RADIOTHERAPY compl.) (CATARACT etiol.)

KOLAR, Jaromir; BEK, Vaclav

Less common localizations of hemangiomata of the bones. Cesk.  
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1. Radiologicka klinika Karlovy university v Praze, prednosta  
prof. dr. V. Svab.

(HEMANGIOMA radiography)  
(BONE AND BONES radiography)