

KATSAROV, K.

M-2

BULGARIA/Cultivated Plants - Grains.

Abs Jour : Ref Zhur - Biol., No 7, 1958, 29740

Author : Katsarov, K., Petrov, Ye.

Inst :

Title : Introducing Correct Crop Rotations to Rice Cultures.

Orig Pub : Selskostopn. mis"l, 1957, 2, No 4, 204-210 (bolg.).

Abstract : The area taken up by rice cultures in Bulgaria in 1956 amounted to 12,042 ha.; the crop totalled 30-40 centners per ha. of unscoured rice. The rice cultures may be extended and the crop increased by turning toward correct crop rotations with rice. A description of suggested crop rotations is given.

Card 1/1

DZHIDZHKV, Tordan, inzh.; KATSAROV, Khristo, inzh.

Influence of the speed of cooling on the structure and mechanical properties of austenite high-manganese steel. Tekhnika Bulg 13 no.5:5-8 '64

KATSAROV, P.

"Electricity in agriculture in Austria"

Elektroenergiia. Sofia, Bulgaria. Vol. 10, no. 2, Feb. 1959

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Jun 59, Unclas

KATSAROV, P., inzh; DIAKOV, Iv., inzh.; BRIZHITSKI, N., inzh.; POPOV, K., inzh.

Main trends in the development of Bulgarian electric power system. Elektroenergiia 14 no.8:4-10 Ag '63.

KATSAROV, Y.

On the Path of Generalize Hygiene at Industrial Enterprises to Gain Higher Productivity of Labor. In the Bulgarian Heavy Industry, 4:51:April 55

KATSAROV, IA.

Minev, P.; Katsarov, IA Insemination of sheep. p.22. On livestock farms. p.23 KOOPERATIVNO ZEMEDELIE. Sofiya. Vol 10, no. 7, July 1955

SO: Monthly List of East European Accessions, (EEAL), LC, Vol 4, no. 10, Oct. 1955, Uncl.

KATSAROV, YA.

BULGARIA / Farm Animals. Small Horned Stock

Q-3

. Abs. Jour: Ref Zhur-Biol., No 3, 1958, 12096

Author : Minev P., Katsarov Ya.

Inst :

Title : Our Fine-Wool Sheep Breeding (Nashe tonkorunnoye  
ovtsevodstvo)

Orig Pub: Kooperat. zemledeliye, 1957, No 4, 28-29

Abstract: As a result of the crossbreeding fine-wool native sheep with semi-fine-wool sheep, the number of fine-wool animals increased to 185,000 and that of semi-fine-wool ones to 1,000,000. The native sheep were crossed with rams of the Merino-Meat breed, and the crossbreeds of the 1st generation, and partly of the 2nd one, were crossed with rams of the Caucasian fine-wool breed. Double crossbreeds were crossed with rams of the third breed. The

Card 1/2

BULGARIA / Farm Animals. Small Horned Stock

Q-3

Abs Jour: Ref Zhur-Biol., No 3, 1958, 12096

Abstract: triple crossbreed sheep attained a weight of 83.6 kg., shearing yield average - 9.1 kg. (maximum - 12.5 kg.), wool wuality 60-64 and length 8.7 cm. (maximum - 10 cm.). Detailed data on the productivity of the crossbreed sheep in various farms and areas are provided. The problem of the milking of sheep is also discussed, inasmuch as sheep milk has great importance in the country. The Merino-meat breed rams considerably improve the exterior of the crossbreeds, increase their live weight, wool yield and fertility, and the Caucasian rams create a desirable type of fine-wool sheep.

Card 2/2

22

KATSAROVA, M.

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721130002-5"

BULGARIA/ Analytical Chemistry. Analysis of Inorganic Substances. G-2

Abs Jour: Referat. Zhur.-Khimiya, No. 8, 1957, 27185.

Author : P. Braykova, M. Katsarova.

Title : Photometric Determination of Iron in Raw Materials Used in Glass and Ceramic Industries.

Orig Pub: Leka promishlennost, 1956, 5, No. 9, 36 - 38.

Abstract: If the thiocyanide method is used for the determination of Fe, the results are too low; it is recommended to use the sulfosalicylic acid method. The weighed sample of 0.4 to 0.5 g of the analyzed material is treated with HF and H<sub>2</sub>SO<sub>4</sub> while being heated until SiO<sub>2</sub> and SO<sub>3</sub> vapors are eliminated, the residue is fused with 1 to 1.5 of KHSO<sub>4</sub>, the fuse is dissolved in warm water acidified with HNO<sub>3</sub> (1 : 50); R<sub>2</sub>O<sub>3</sub> is precipitated from the

Card 1/2



BULGARIA/ Analytical Chemistry. Analysis of Inorganic Substances. G-2

Abs Jour: Referat. Zhur.-Kimiya, No. 8, 1957, 27185.

produced solution using  $\text{NH}_4\text{OH}$ . The precipitate is washed with a 3%-ual solution of  $\text{NH}_4\text{NO}_3$ , dissolved in 5 ml of  $\text{HNO}_3$  (1 : 1) and diluted to 100 ml (if a high exactitude was not required, the solution of fuse produced by fusion with  $\text{KHSO}_4$  may be used for the following determination of Fe). An aliquot portion of the solution containing 0.01 to 1 mg of Fe is mixed with 25 ml of 10%-ual solution of sulfosalicylic acid, with 25%-ual solution of  $\text{NH}_4\text{OH}$  until the color becomes yellow, and 5 ml of concentrated  $\text{NH}_4\text{OH}$ , diluted to 100 ml and photometered with a blue light filter.

Card 2/2

KATSAROVA-KARANOVA P.

A spatial induction of involutions in space. Godishnik  
Insh stroit inst 16 no.1:111-122 '64.

KATSARSKI, Iv.; DICHEV, P.; POSTNIKOVA [translator]; GANCHEV, G.  
[translator]

Comparing the accuracy of stereophotogrammetric methods applied  
in the drawing out of the maps of Bulgaria on the scale 1:5000.  
Izv. geod BAN no.4:131-139 '63.

**"APPROVED FOR RELEASE: 06/13/2000    CIA-RDP86-00513R000721130002-5**



**APPROVED FOR RELEASE: 06/13/2000    CIA-RDP86-00513R000721130002-5"**

KATSAS M. M.

J

Country : USSR  
Category : Soil Science. Mineral Fertilizers.

53412

Abstr. Jour. :

Author : Katsas, M.; Savitskas, J.; Mayauskas, K.  
Institut. : Lithuanian Sci. Res. Inst. for Agriculture  
Title : Certain Methods for Correct and Rational Liming  
in the Lithuanian SSR

Orig. No. : Tr. Lit. n.-i. in-ta zemled., 1957, 3, 81-118

Abstract : Based on a survey of all available material on soil liming in the Lithuanian SSR, it is recommended that lime fertilizers be applied to sand and loam soils at the rate of 0.5 and to clay at the rate of 0.75 of the normal dose as determined by hydrolytic acidity. Soils with <math>5.0</math> pH should be limed first, while refraining from liming less acid sandy soils. A table is given to evaluate the soils of this republic in accordance with liming needs. Liming doses are also

Card: 1/2

J

53412

Country :  
Category :

Abs. Jour. :

Author :  
Institut. :  
Title :

Orig. Pub. :

Abstract : given, calculated from two indicators: the pH of the soil in the KCl extract with regard to its mechanical composition, and by introducing the variable factor of the carbonate horizon depth. The data of two year long studies indicate that the placement of small doses of organic mineral mixtures and lime can take the place of liming acid soils plus normal fertilizing. A number of other problems related to liming the republic's soils are examined. --N.N. Sokolov

Card: 2/2

USSR/Soil Science - Mineral Fertilizers.

J

Abs Jour : Ref Zhur Biol., No 22, 1958, 100089

Author : Kacas, M., Rozovskis, G.

Inst : ~~XXXXXXXXXXXX~~

Title : Quantity of Fertilizers which are Necessary to Introduce  
Into the Soil During Tillage.

Orig Pub : Soc. zemes ukis, 1957, No 11, 41-43

Abstract : No abstract.

Card 1/1

- 67 -

KATSAS, N.M. [Kacas, M.M.]; ROZOVSKIS, G.I.

Application of soil lime requirement indices and their inter-  
relationship [with summary in English]. Pochvovedenie no.11:  
60-65 N '58. (MIRA 11:12)

1. Litovskiy nauchno-issledovatel'skiy institut zemledeliya.  
(Lithuania--Soil acidity) (Lime)



KATSAS, O.Yu., uchitel' fiziki i elektrotehniki.

Determining the power factor of single-phase receivers by using three  
voltmeters. Politekh. obuch. no.4:91-92 Ap '58. (MIRA 11:3)

1. Shkola No.43, g. Tomsk.  
(Electric engineering--Study and teaching)

KATSAS, O.Ya. [Kacas, O.J.].

Correlation between the actual and amplitude values of electric current. Fiz.v shkole 16 no.5:74 S-0 '56. (MLRA 9:11)

1. 43-ya srednyaya shkola, Tomsk.  
(Electric current)

KATSAUROV, I.N.

ANDREYEV, A.B.; ANTONOV, A.I.; ARAPOV, P.P.; BARMASH, A.I.; BEDNYAKOVA,  
 A.B.; BEMIN, G.S.; BERESNEVICH, V.V.; BERNSHTEYN, S.A.; BITUTSKOV,  
 V.I.; BLYUMENBERG, V.V.; BONCH-BRUYEVICH, M.D.; BORNOTOV, A.D.;  
 BULGAKOV, N.I.; VEKSLER, B.A.; GAVRILENKO, I.V.; GENDLER, Ye.S.,  
 [deceased]; GERLIVANOV, N.A., [deceased]; GIBSEMAN, Ye.Ye.;  
 GOLDOVSKIY, Ye.M.; GOBUNOV, P.P.; GOHYALOV, F.A.; GRINBERG, B.G.;  
 GRYUNER, V.S.; DANOVSKIY, N.F.; DZEVUL'SKIY, V.M., [deceased];  
 DREMAYLO, P.G.; DYBETS, S.G.; D'YACHENKO, P.F.; DYURNBAUM, N.S.,  
 [deceased]; YEGORCHENKO, B.F. [deceased]; YEL'YASHKEVICH, S.A.;  
 ZHEREBOV, L.P.; ZAVEL'SKIY, A.S.; ZAVEL'SKIY, F.S.; IVANOVSKIY,  
 S.R.; ITKIN, I.M.; KAZHDAN, A.Ya.; KAZHINSKIY, B.B.; KAPLINSKIY, S.V.;  
 KASATKIN, F.S.; KATSAUROV, I.N.; KITAYGORODSKIY, I.I.; KOLENNIKOV,  
 I.F.; KOLOSOV, V.K.; KOMAROV, N.S.; KOTOV, B.I.; LINDE, V.V.;  
 LESKDEV, H.V.; LEVITSKIY, N.I.; LOKSHIN, Ya.Yu; LUTTSAU, V.K.;  
 MANNERBERGER, A.A.; MIKHAYLOV, V.A.; MIKHAYLOV, N.M.; MURAV'YEV, I.M.;  
 NYDEL'MAN, G.R.; PAVLYSHKOV, L.S.; POLUYANOV, V.A.; POLYAKOV, Ye.S.;  
 POPOV, V.V.; POPOV, N.I.; RAKHLIN, I.Ye., HZHEVSKIY, V.V.; ROZENBERG,  
 G.V.; ROZENTRETER, B.A.; ROKOTYAN, Ye.S.; HUKAVISHNIKOV, V.I.;  
 RUTOVSKIY, B.N. [deceased]; RYVKIN, P.M.; SMIRNOV, A.P.; STEPANOV, G.Yu,  
 STEPANOV, Yu.A.; TARASOV, L.Ya.; TOKAREV, L.I.; USPASSKIY, P.P.;  
 FEDOROV, A.V.; FERRE, N.R.; PRENKEL', N.Z.; KHEYFETS, S.Ya.; KHLOPIN,  
 M.I.; KHODOT, V.V.; SHAMSHUR, V.I.; SHAPIRO, A.Ye.; SHATSOV, N.I.;  
 SHISHKINA, N.N.; SHOR, N.R.; SHPICHENETSKIY, Ye.S.; SHPRINK, B.E.;  
 SHTERLING, S.Z.; SHUTYY, L.R.; SHUKHGAL'TER, L. Ya.; ERVAYS, A.V.;

(Continued on next card)

ANDREYEV, A.B. (continued) .... Card 2.

YAKOVLEV, A.V.; ANDREYEV, Ye.S., retsenzent, redaktor; BERKEN-  
GEYM, B.M., retsenzent, redaktor; BERMAN, L.D., retsenzent, redaktor;  
BOLTINSKIY, V.N., retsenzent, redaktor; BONCH-BRUYEVICH, V.L.,  
retsenzent, redaktor; VELLER, M.A., retsenzent, redaktor; VINOGRADOV,  
A.V., retsenzent, redaktor; GUDTSOV, N.T., retsenzent, redaktor;  
DEGTYAREV, I.L., retsenzent, redaktor; DEM'YANYUK, F.S., retsenzent;  
redaktor; DOBROSmyslov, I.N., retsenzent, redaktor; YELANCHIK, G.M.  
retsenzent, redaktor; ZHEMOCHKIN, D.N., retsenzent, redaktor;  
SHURAVCHENKO, A.N., retsenzent, redaktor; ZLODEYEV, G.A., retsenzent,  
redaktor; KAPLUNOV, R.P., retsenzent, redaktor; KUSAKOV, M.M.,  
retsenzent, redaktor; LEVINSON, L.Ye., [deceased] retsenzent, redaktor;  
MALOV, N.N., retsenzent, redaktor; MARKUS, V.A. retsenzent, redaktor;  
METELITSYN, I.I., retsenzent, redaktor; MIKHAYLOV, S.M., retsenzent;  
redaktor; OLIVETSKIY, B.A., retsenzent, redaktor; PAVLOV, B.A.,  
retsenzent, redaktor; PANYUKOV, N.P., retsenzent, redaktor; PLAKSIN,  
I.N., retsenzent, redaktor; RAKOV, K.A. retsenzent, redaktor;  
RZHAVINSKIY, V.V., retsenzent, redaktor; RINBERG, A.M., retsenzent;  
redaktor; ROGOVIN, N. Ye., retsenzent, redaktor; HUDENKO, K.G.,  
retsenzent, redaktor; RUTOVSKIY, B.N., [deceased] retsenzent,  
redaktor; RYZHOV, P.A., retsenzent, redaktor; SANDOMIRSKIY, V.B.,  
retsenzent, redaktor; SKRAMTAYEV, B.G., retsenzent, redaktor;  
SOKOV, V.S., retsenzent, redaktor; SOKOLOV, N.S., retsenzent,  
redaktor; SPIVAKOVSKIY, A.O., retsenzent, redaktor; STRAMENTOV, A.Ye.,  
retsenzent, redaktor; STRELETSKIY, N.S., retsenzent, redaktor;  
(Continued on next card)

ANDREYEV, A.V., (continued) .... Card 3.

TRET'YAKOV, A.P., retsenzent, redaktor; FAYERMAN, Ye.M., retsenzent, redaktor; KHACHATYROV, T.S., retsenzent, redaktor; CHERNOV, H.V., retsenzent, redaktor; SHERGIN, A.P., retsenzent, redaktor; SHESTOPAL, V.M., retsenzent, redaktor; SHESHKO, Ye.F., retsenzent, redaktor; SHCHAPOV, N.M., retsenzent, redaktor; YAKOBSON, M.O., retsenzent, redaktor; STEPANOV, Yu.A., Professor, redaktor; DEM'YANYUK, F.S., professor, redaktor; ZNAMENSKIY, A.A., inzhener, redaktor; PLAKSIN, I.N., redaktor; RUTOVSKIY, B.N. [deceased] doktor khimicheskikh nauk, professor, redaktor; SHUKHGAL'TER, L. Ya, kandidat tekhnicheskikh nauk, dotsent; redaktor; BRESTINA, B.S., redaktor; ZNAMENSKIY, A.A., redaktor.

(Continued on next card)

ANDREYEV, A.V. (continued) .... Card 4.

[Concise polytechnical dictionary] Kratkii politekhnicheskii slovar'. Redaktsionnyi sovet; IU.A.Stepanov i dr. Moskva, Gos. izd-vo tekhniko-teoret. lit-ry, 1955. 1136 p. (MLRA 8:12)

1. Chlen-korrespondent AN SSSR (for Plaksin)  
(Technology--Dictionaries)

KOTLYAROV, Stepan Ivanovich; ZIMIN, Dmitriy Kondrat'yevich; FROLOV, Nikolay Afanas'yevich; ASSHOV, V.A., redaktor; KATSAUROV, I.N., redaktor; SHUSHKOVSKAYA, Ye.L., redaktor; ALADOVA, Ye.I., tekhnicheskiy redaktor.

[Problems in mining engineering, opening and supporting mine workings]  
Zadachnik po gornym rabotam, provedeniiu i krepleniui gornykh vyrabotok.  
Moskva, Ugletekhizdat, 1955.261 p. (MLRA 9:5)  
(Mining engineering)

~~KATASURAV~~  
KATSAUROV, IGOR' NIKOLAYEVICH

DANILOV, Karl Petrovich, inzhener; YEPIFANTSEV, Yuriy Konstantinovich, kandidat tekhnicheskikh nauk; KATSAUROV, Igor' Nikolayevich, dotsent; POKROVSKIY, Nikolay Mikhaylovich, professor, doktor tekhnicheskikh nauk; SHEYKHET, Mikhail Nikolayevich, kandidat tekhnicheskikh nauk; CHEKAREV, Vladimir Alekseyevich, inzhener; SMIRNOV, L.V., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnicheskij redaktor

[Problems in conducting mining operations] Voprosy provedeniya gornyykh vyrobotok. Pod red. N.M. Pokrovskogo. Moskva, Ugletekhizdat, 1956. 80 p.  
(Coal mines and mining)



GUSEYEV, Aleksandr Georgiyevich; YANCHUR, Aleksandr Mikhaylovich; KATSAUROV, I.N.; redaktor; SMIRNOV, L.V., redaktor; ALADOVA, Ye.I., tekhnicheskii redaktor.

[Collection of examples and problems in mining] Sbornik primerov i zadach po provedeniiu gornykh vyrabotok. Moskva, Ugletekhizdat, 1956.  
147 p. (Mining engineering) (MLRA 9:6)

*KALSAKSEV, L.N.*

ANDROS, I.P., inzh.; ASSONOV, V.A., kand. tekhn. nauk.; BERNSHTEYN, S.A., inzh.; BOKIY, B.V., prof.; BROVMAN, Ya.V., inzh. BONDARENKO, A.F., inzh.; BUCHNEV, V.K., kand. tekhn. nauk; VERESKUNOV, G.P., kand. tekhn. nauk; VOLKOV, A.F., inzh.; GELMSKUL, M.N., kand. tekhn. nauk; GORDONICHV, V.M., inzh.; DEMENT'YEV, A.Ya., inzh.; DOKUCHAYEV, M.M., inzh.; IUBNOV, L.V., kand. tekhn. nauk; YEPIFANTSEV, Yu.K., kand. tekhn. nauk.; YERASHKO, I.S., inzh.; ZHEDANOV, S.A., kand. tekhn. nauk; ZIL'BERBROD, A.F., inzh.; ZINCHENKO, E.M., inzh.; ZORI, A.S., inzh.; KAPLAN, L.B., inzh.; KATSAUROV, I.N., dots.; KITAYSKIY, E.Y.. inzh.; KRAVTSOV, Ye.P., inzh.; KRIVOROG, S.A., inzh.; KRINITSKIY, L.M., kand. tekhn. nauk; LITVIN, A.Z., inzh.; MALVICH, N.A., kand. tekhn. nauk; MAN'KOVSKIY, G.I., doktor tekhn. nauk; MATKOVSKIY, A.I., inzh.; MINDELI, E.O., kand. tekhn. nauk; NAZAROV, P.P., kand. tekhn. nauk; NASONOV, I.D., kand. tekhn. nauk; NEYENBURG, V.Ye., kand. tekhn. nauk; POKROVSKIY, G.I., prof., doktor tekhn. nauk; PROYAVKIN, E.T., kand. tekhn. nauk; ROZENBAUM, inzh.; ROSSI, B.D., kand. tekhn. nauk; SEMEVSKIY, V.N., doktor tekhn. nauk; SKIRGELLO, O.B., inzh.; SUKRUT, A.A., inzh.; SUKHANOV, A.F., prof., doktor tekhn. nauk; TARANOV, P.Ya., kand. tekhn. nauk; TOKAROVSKIY, D.I., inzh.; TRUPAK, N.G., prof., doktor tekhn. nauk; FEDOROV, S.A., prof., doktor tekhn. nauk; FEDYUKIN, V.A., inzh.; KHOZHLOVKIN, D.M., inzh.; KHRABROV, N.I., kand. tekhn. nauk; CHEKAROV, V.A., inzh.; CHERNAVKIN, N.N., inzh.; SHREYBER, B.P., kand. tekhn. nauk; EPOV, B.A., kand. tekhn. nauk; YAKUSHIN, N.P., kand. tekhn. nauk; YANCHUR, A.M., inzh.; YAKHONTOV, A.D., inzh.; POKROVSKIY, N.M., otvetstvennyy red.; KAPLUN, Ya.G. [deceased], red.; MONIN, G.I., red.; SAVITSKIY, V.T.,

(Continued on next card)

ANDROS, I.P.---(continued) Card 2.

red.; SANOVICH, P.O., red.; YOLOVICH, M.Z., inzh., red.; GORITSKIY, A.V., inzh., red.; POLUTANOV, V.A., inzh., red.; PADEYEV, E.I., inzh., red.; CHECHKOV, L.V., red. izd-va; PROZOROVSKAYA, V.L., tekhn. red.; NADEINSKAYA, A.A., tekhn. red.

[Mining; an encyclopaedic handbook] Gornoe delo; entsiklopedicheskiy spravochnik. Glav. red. A.M. Terpigorev. Moskva, Gos. Nauchno-tekhnicheskoye izd-vo lit-ry po ugol'noi promyshl. Vol. 4 [Mining and timbering] Provedeniye i krepleniye gornykh vyrabotok. Redkollegiya tova: N.M. Pekrovskiy... 1958. 464 p. (MIR 11:7)

(Mine timbering) (Mining engineering)

KATSAUROV, I.N.

POKROVSKIY, N.M., prof.; KATSAUROV, I.N., dots.; BARONENKOV, A.V., dots.;  
CHUPRUNOV, G.D., dots.; NASONOV, I.N., dots.

"Vertical shaft sinking" G.V. Surmilo. Reviewed by N.M. Pokrovskii  
and others. Shakht.stroi. no.12:32-33 '58. (MIRA 11:12)  
(Shaft sinking) (Surmilo, G.V.)

KATSAUROV, I. N.

Cand Tech Sci - (diss) "Problems of the thickness of supports in mine shafts in light of new views of mine pressure." Moscow, 1961. 24 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Moscow Mining Inst imeni I. V. Stalin); 200 copies; price not given; (KL, 6-61 sup, 218)

KATSAUROV, Igor' Nikolayevich, dots., kand. tekhn.nauk; PRISHVITSYN,  
V.M., otv. red.; CHECHKOV, L.V., red. izd-va; IL'INSKAYA, G.M.,  
tekhn. red.

[Rock pressure in vertical shafts] Gornoe davlenie v vertikal'-  
nykh stvolakh. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gor-  
nomu delu, 1961. 153 p. (MIRA 15:2)  
(Mine timbering) (Rock pressure)

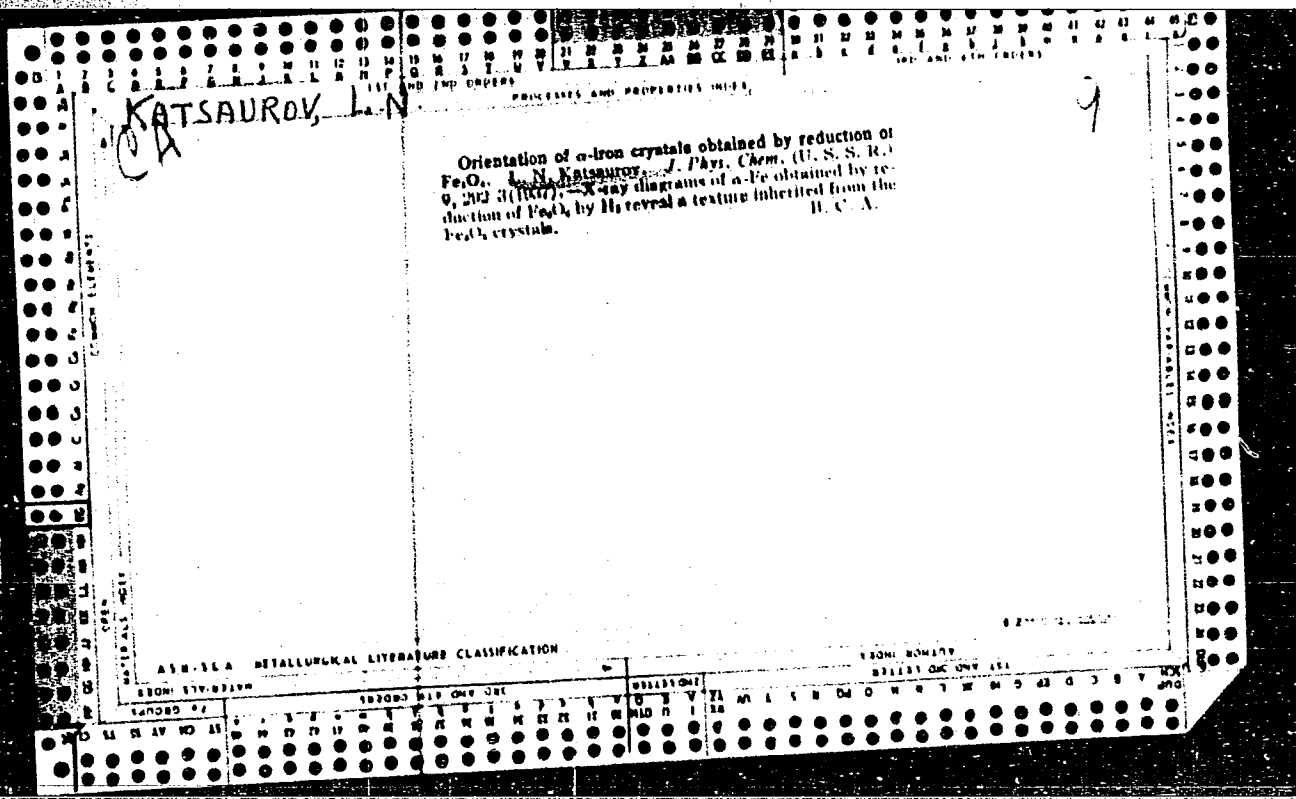
DZHANDZHGAVA, Iosif Diomidovich; KATSAUROV, I.N., dots., kand. tekhn.  
nauk, retsenzent; SHMELEV, A.I., red. izd-va; MINSKER, L.I.,  
tekhn. red.

[Selection of an efficient type of support for permanent mine  
workings] Vyor ratsional'nogo vida krep'i kapital'nykh vyra-  
botok. Moskva, Gosgortekhnizdat, 1963. 71 p. (MIRA 16:7)  
(Mine timbering)

MAKSIMOV, Aleksandr Pavlovich; KATSAUROV, I.N., kand. tekhn. nauk,  
retsenzent; TRUMBACHEV, V.F., doktor tekhn. nauk, otv. red.;  
CHERNEGOVA, E.N., red.izd-va; LOMILINA, L.N., tekhn. red.

[Bulging of rocks and the stability of underground workings]  
Vydavlivanie gornykh porod i ustoychivost' podzemnykh vyrabo-  
tok. Moskva, Gosgortekhzdat, 1963. 143 p. (MIRA 16:12)  
(Rock pressure) (Mining engineering)





*KATSAUTOV, L.N.*

BALABANOV, Ye.M.; BARIT, I.Ya.; KATSAUTOV, L.N.; FRANK, I.M.; SHTRANIKH, I.V.

Measurement of yields and effective cross sections of the  $D(t,n)He^4$   
and  $D(d,p)T$  reactions for a thick heavy ice target. Atom. energ.  
suppl. no.5:48-56 '57. (MIRA 11:2)  
(Nuclear reactions) (Deuterons)

65946

SOV/58-59-4-7684

24.6600

Translation from: Referativnyy Zhurnal Fizika, 1959, Nr 4, p 60 (USSR)

AUTHORS: Balabanov, Ye.M., Barit, I.Ya., Katsaurov, L.N., Frank, I.M., Shtranikh, I.V.

TITLE: Yield and Effective Cross-Section Measurements of  $D(t,n)He^4$  and  $D(d,p)T$  Reactions for a Thick Heavy-Ice Target

PERIODICAL: V sb.: Yadern. reaktsii na legkikh yadrakh. Moscow, Atomizdat, 1957, pp 48 - 56

ABSTRACT: The authors measured the yield and effective cross sections of  $D(t,n)He^4$  and  $D(d,p)T$  reactions for heavy ice in the 50 - 200 Kev deuteron energy range. A  $D_2^+$  or  $HT^+$  beam from an ion-accelerating tube was sorted in accordance with the different masses of the particles by means of a magnet and a system of diaphragms. The reaction yield was determined from the number of alpha-particles or protons registered at an angle of  $90^\circ$  to the beam with the aid of proportional counters. For the  $D(t,n)He^4$  reaction a maximum was observed for 160 Kev tritons; the magnitude of the cross section at the maximum was equal to 4.34 barn. The yield and cross-section measurements of the  $D(d,p)T$  reactions were carried out by way of a check,


Card 1/2

65946

SOV/58-59-4-7684

Yield and Effective Cross-Section Measurements of  $D(t,n)He^4$  and  $D(d,p)T$  Reactions for a Thick Heavy-Ice Target

since reliable results for this reaction using a gas target have been published (Sanders et al, Phys. Rev., 1950, Vol 77, p 1754, McNeill, K.G., et al, Phys. Rev., 1951, Vol 81, p 602). The results of the measurements showed that for a significant part of the energy range the obtained cross sections were 10 - 20% less than those obtained using a gas target. The authors assume that this is due to an inaccuracy in the values utilized for the energy losses in  $D_2O$ , or to some other systematic errors .

V.I.Ch. 

Card 2/2

*KATSAUROV, L.N.*

BALABANOV, Ye.M.; BARIT, I.Ya.; KATSAUROV, L.N.; FRANK, I.M.; SHTRANIKH, I.V.

Measurement of the effective cross section of the  $D(t,n)He^4$  reaction  
in the 40-730 Kev deuteron energy range. Atom. energ. suppl. no.5:57-  
70 '57. (MIRA 11:2)

(Nuclear reactions) (Deuterons)

KATSAUROV, L.N.; NUSAYELYAN, R.M.; POPOV, V.I.

Total effective cross section of tritium for 2,5 and 14 Mev neutrons.  
Atom. energ. suppl. no.5:71-74 '57. (MIRA 11:2)  
(Tritium) (Nuclear reactions) (Neutrons)

KATSAUROV, L.N.; MUSAYELYAN, R.M.; POPOV, V.I.

Total effective cross section of  $\text{Li}^6$  and  $\text{Li}^7$  for 2,5 and 14 Mev  
neutrons. Atom. energ. suppl. no. 5:90-91 '57. (MIRA 11:2)  
(Nuclear reactions) (Lithium--Isotopes)

86753

9.6150  
21.5300 (1144, 1138, 1425)

S/120/60/000/006/029/045  
E032/E314

AUTHORS: Gladyshev, V.A. and Katsaurov, L.N.

TITLE: A Vapour Jet Counter of Charged Particles

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, No. 6,  
pp. 113 - 114

TEXT: In a number of nuclear studies (for example, in the case of scattering of protons, neutrons, etc. at energies below about 300 keV) it is necessary to record charged particles having low energies. The detection of such particles meets with serious experimental difficulties because it is necessary to use very thin windows, separating the counting region from the target chamber in which a very high vacuum must be maintained. These difficulties can be avoided if a jet of vapour is used instead of the usual working gas in the counter. Fig. 1 shows a schematic drawing of such a counter. The counter is essentially a single-stage oil-diffusion pump. A tungsten wire 0.1 mm in diameter and 1 cm long is introduced into the vapour jet so that the glass sphere at the end of the tungsten wire is in the plane

Card 1/4



86753

S/120/60/C00/006/029/045  
E032/E314

A Vapour Jet Counter of Charged Particles

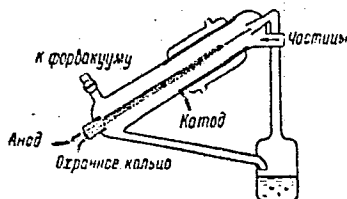
of the end of the nozzle. The inner surface of the condenser (25 mm in diameter) in the region of the wire is either silvered or covered with a thin layer of copper. This surface serves as the cathode and the wire serves as the anode. The effective window thickness of such a counter is practically determined by the temperature of the walls in the neighbourhood of the entrance part into its working volume. This effective thickness is defined as the thickness of the oil vapour behind the front section of the window. When the walls are at 70 °C the effective window thickness is 10 - 20  $\mu\text{g}/\text{cm}^2$ . By reducing the temperature it can apparently be reduced to tenths or even hundredths of  $\mu\text{g}/\text{cm}^2$ . However, this is associated with a reduction in the working volume of the counter. The operation of this counter in the proportional region was checked using  $\alpha$ -particles from a Po source.  $\alpha$ -particle pulses had amplitudes of between 0.01 and 0.5 V so that normal amplifying apparatus could be used.

Card 2/4

86753  
S/120/60/000/006/029/045  
E032/E314

Our Jet Counter of Charged Particles

It was found that with an amplification of about  $10^4$  signal-to-noise level was sufficiently high. The pulses have a length of the order of 100  $\mu$ s and voltages of the order 400 - 600 V are found to be satisfactory.



There is 1 figure.

ASSOCIATION: Fizicheskiy institut AN SSSR  
(Physics Institute of the AS USSR)

Card 3/4

86753

S/120/60/000/006/029/045  
E032/E314

A Vapour Jet Counter of Charged Particles

SUBMITTED: October 20, 1959

X

Card 4/4

S/120/62/000/001/002/061  
E032/E514

AUTHORS: Gladyshev, V.A., Katsaurov, L.N. and Kuznetsov, A.N.

TITLE: On the use of a jet of vapour as a target for  
producing nuclear reactions

PERIODICAL: Pribory i tekhnika eksperimenta, no.1, 1962, 20-22

TEXT: In nuclear physics it is frequently necessary to have a thin target capable of withstanding large ion currents. The present authors report an investigation of the possible use of a jet of vapour for this purpose. The principle of the apparatus employed is illustrated in Fig.1. The vapour was introduced into a vacuum chamber through the nozzle 3 and was condensed by the liquid-nitrogen-cooled trap 4,5. Water vapour was employed as the working substance. The density of vapour in the central part of the jet was investigated by placing small rings inside the vapour trap and measuring the amount of water condensed on each of them. The experimental results obtained suggest that the water vapour jet does not follow the laws of gas dynamics. Empirical formulae are reported for the density distribution in the  
Card 1/2

On the use of a jet of vapour ... S/120/62/000/001/002/061  
EO32/E514

jet. With a pumping speed of 1000 litres/sec and a vacuum of  $10^{-5}$  mm Hg it is possible to release 0.1 g/sec through the nozzle. If it is assumed that the velocity of the jet approaches the velocity of sound, then the thickness of the vapour target turns out to be of the order of  $2 \mu\text{g}/\text{cm}^2$ . For 2 MeV protons the corresponding energy loss is of the order of 600 eV. However, in the latter case a considerable amount of vapour still misses the trap and enters the vacuum chamber. In order to obtain thicker targets, it is necessary to use vapours of liquids whose vapour pressure at, say, room temperature is  $10^{-5} - 10^{-6}$  mm Hg, or to develop new types of nozzles which would confine the jet to a smaller angular range. It is stated that vapour targets having a thickness of a few keV can be produced for use with a focused beam having a cross section of about  $1 \text{ cm}^2$ . There are 5 figures.

SUBMITTED: August 24, 1960

Card 2/3

L 16135-63

EWP(q)/EWT(II)/BDS AFPTC/ASD JD

ACCESSION NR: AT1001854

S/2504/62/114

AUTHOR: Katsurov, L. N.

TITLE: Investigation of the  $D(T, n)He^4$  reaction<sup>19</sup> by the thin-target method in the energy range from 40 to 750 keV

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 14, 1962, 224-262

TOPIC TAGS: reaction,  $D(T, n)He^4$ , reactor, target, thick, thin, D, Deuterium, T, Tritium, heavy water, cross section, energy, diffusion, angular, distribution, particle, S-interaction, interaction

ABSTRACT: The paper describes and evaluates experimental findings on the subject stated in the title. It comprises the author's dissertation for the degree of Candidate of Physico-Mathematical Sciences submitted at the Fizicheskiy institut AN SSSR (Physics Institute, AS USSR) in May 1957. The measurements of the effective cross section with a gaseous target were begun in 1951 and were completed in 1955. The fundamental results of the experimentation were published in Atomnaya energiya, suppl. no. 5, 1957, 57. An analysis of the various sources of errors in thick and thin targets leads to the author's proposal of the use of a thin target. The respective advantages and problems of solid and gaseous targets are

Card 1/3

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721130002-5"

L 16135-63

ACCESSION NR: AT3001854

discussed. Gaseous targets can be either of the closed or of the through-flow type. Reasons for preference of a through-flow-type gaseous target are explained. The principal difficulty in a through-flow gaseous target is that of the difficulty of determining the number of impinging particles. To obtain a quantitative relationship between the number of impinging particles and the number of particles emerging from a gaseous target is evacuated before and after measurements, and measurements are made on the output of  $\alpha$ -particles from the heavy ice derived from the target per unit beam charge registered by an integrator. The equipment used is described. Chapter I. Measurement of the effective cross section of the  $D(T, n)He^4$  reaction at maximum yield. Sec. 1. Accelerator equipment. The general principle of the circuitry of the calibration of the equipment and the circuitry of the measuring resistance are depicted and described. The gas target is depicted in cross section and photographically. Sec. 2. The target. Sec. 3. Results of measurements. Sec. 4. Evaluation of the effective cross section in through-flow gas-target measurements. Chapter II. Investigation of the effective cross section of the  $D(T, n)He^4$  reaction vs. energy. Sec. 5. Equipment. Sec. 6. Measurement method and elaboration of results. Sec. 7. Measurements. Sec. 8. Evaluation of possible errors. Sec. 9. Conclusions. Correlation of experimental data obtained with antecedent measurements is limited to those experimental data considered most dependable, all of which date after 1952 and are

Card 2/3

L 16135-63

ACCESSION NR: AT3001854

21

et al. (Phys. Rev., 1959), Conner (Phys. Rev., v. 87, 1952, 612), and Arnold et al. (Phys. Rev., v. 93, 1954, 483). Especial attention is devoted to the divergence between the theoretical curve and the experimental data in the area of the maximum of the curve of effective cross section vs. energy in which an S-interaction between Deuterium and Tritium is suspected. "In conclusion I regard it my pleasant duty to thank the director of this work, I. M. Frank (Corr. Member, AS USSR), for his great assistance and attention, which he showed the author in the process of its completion. Especial thanks are expressed also to Ye. M. Balabanov, I. Ya. Barit, A. A. Bergman, G. A. Kuritso, V. I. Popov, and I. V. Straniki, who participated in this work at various times and contributed much ingenuity and labor to it, also M. V. Kazarnovskiy and D. A. Zaikin for their many consultations on theoretical problems. I regard it also incumbent on me to express thanks to Laboratory Computer Z. P. Mukhina, Instrument Builders L. V. Popov, V. Y. Yelkin, and V. N. Golovin, also to Laboratory Assistants V. N. Yezhov, V. Rybakov, V. P. Malikov, V. K. Tarasov, and Radiotechnicians N. B. ... V. A. Artemyev, for their invaluable assistance. Orig. art. contains 9 tables, and 12 numbered equations.

ASSOCIATION: Fizicheskly institut AN SSSR (Physics Institute, AN SSSR)  
 SUBMITTED: 00 DATE ACQ: 11Apr63 ENCL: 00  
 SUB CODE: NS, PH, EL NO REF SOV: 005 OTHER: 026  
 Card 3/3

L 45586-65 EWT(n)/EPA(w)-2/EWA(m)-2 Pab-10/Pt-7 IJP(c) DM  
g/0089 65/012 109/021 2/213

Moroz, Ya. M.

TITLE: Injection of an ion beam in a cyclotron 19

SOURCE: Atomnaya energiya, v. 18, no. 3, 1965, 213-218

TOPIC TAGS: cyclotron, accelerated particle injection, polarized ion acceleration, sector cyclotron



is of importance for the acceleration of polarized ions. In the method proposed cannot be placed normally in the center of a cyclotron. In the method proposed the beam can be delivered to the accelerating gap practically without losses, which is of great importance for polarized particles. This is done by directing the

along the boundary of one of its sectors. It is thus an a.m. at selecting the right initial injection conditions.

Card 1/82

**"APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000721130002-5**

APPROVED FOR RELEASE: 06/13/2000

**APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000721130002-5"**

and 22 formulas.

ASSOCIATION: None

L 1977-66 EWT(m)/EWA(h)

UR/2504/65/033/000/0235/0273

ACCESSION NR: AT5018599

AUTHOR: Katsaurov, L. N.; Iatysh, V. G.

TITLE: On the possibility of increasing the yield of nuclear reactions

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 33, 1965. Issledovaniye atomnogo yadra s pomoshch'yu zaryazhennykh chastits i neutronov (Investigation of the atomic nucleus using charged particles and neutrons), 235-273

TOPIC TAGS: nuclear reaction, neutron physics, cyclotron

ABSTRACT: The article deals with methods of increasing the ratio of the number of nuclear reactions produced in a target to the number of bombarding particles. In the most commonly used nuclear reactions, aimed primarily at production of monoenergetic neutron beams, this ratio seldom exceeds  $10^{-5}$ . Of the two fundamental methods of accomplishing this, reducing the interaction between the incident particle and the field that retards its motion and imparting additional acceleration to the particle as it moves in the target, only the latter is feasible at present. Various methods of providing the additional acceleration both outside and inside the target are discussed. The most effective method is to place the target in an accelerator such as a cyclotron and repeat the interaction cyclically. The most promising is the use of a cyclotron with azimuthal variation of the magnetic field.

Card 1/3

30  
16  
B+1

L 1977-66

ACCESSION NR: AT5018599

13

Three possible arrangements are possible: (1) Thin local targets (jets of gas or vapor, thin solid target), with acceleration outside the target; in the case of solid targets the incident-particle current is limited to several microamperes). (2) Gas targets or thin targets distributed over the entire length of the accelerated-particle orbit. The attainable acceleration is limited by the breakdown voltage of the gas target in the accelerator. (3) An arrangement whereby the accelerated-particle beam itself serves as the target. Two sorts of particles, whose masses and energies satisfy certain prescribed relations, move along the same orbit in the cyclotron and are accelerated to different energies. This method is also limited to small particle currents. The increase in yield afforded by all three methods is estimated for various types of targets. The largest gain in yield (about 1000 times) is obtained if jets of vapor or gas are used. A slotted-magnet 300-key cyclotron for this purpose has been constructed by a group comprising V. A. Gladyshev, L. N. Katsurov, A. I. Kuznetsov, L. P. Nechayeva, and Ye. M. Moroz (V. A. Gladyshev et al. *Atomnaya energiya*, in press), and tests of the formulas derived in the present paper are under way. "The authors thank Corresponding Member AN SSSR I. M. Frank, Director of the Atomic-Nucleus Laboratory, their colleagues Ye. M. Balabanov, I. Ya. Barit, O. I. Kozinets, and F. L. Shapiro, and also A. A. Kolomanskiy, M. S. Rabinovich, and Ye. M. Moroz of the FIAN Accelerator Laboratory for

Card 2/3

L 1977-66

ACCESSION NR: AT5018599

discussions. The idea of using a cyclotron as a neutron generator is due to I. M. Frank, and the possibility of obtaining large neutron yields with a thin gas target in a cyclotron is due to F. L. Shapiro." Orig. art. has: 9 figures, 121 formulas, and 4 tables.

ASSOCIATION: Fizicheskii institut AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 00

ENCL: 00

SUB CODE: NP

NR REF SOV: 012

OTHER: 012

*KC*  
Card 3/3

GLADYSHEV, V.A.; KATSAUROV, L.N.; KUZNETSOV, A.N.; MOROZ, Ye.M.; NECHAYEVA, L.P.

Design of a spiral-coil 300 Kev. cyclotron with external injection.  
Atom. energ. 19 no.5:442 N '65.

Magnetic field of a spiral-coil 300 Kev. cyclotron with external  
injection. Atom. energ. 19 no.5:443 N '65.

(MIRA 18:12)

I 27967-86 EWI(m) IJP(c)

ACC NR: AP6017683

SOURCE CODE: UR/0089/65/019/005/0112/0112

AUTHOR: Gladyshev, V. A.; Katsaurov, L. N.; Kuznetsov, A. N.; Moroz, Ye. M.; Nechayeva, L. P. 3/B

ORG: none

TITLE: Construction of a 300 kev sector cyclotron with external injection (Entire article)

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 442

TOPIC TAGS: cyclotron, particle accelerator target, deuteron, diffusion pump, cyclotron magnet, vacuum chamber/N-5T diffusion pump 10

ABSTRACT: With thin targets, <sup>19</sup>accelerated particles can be used more effectively if additional acceleration is applied to them after they have passed through the target (L. N. Katsaurov and V. G. Letysh, Trudy FIAN SSSR [Proceedings of the Physics Institute, Academy of Sciences USSR, Vol 33, p 235 (1965)]. A small ~300 kev deuteron sector cyclotron was constructed at the Physics Institute to test the feasibility of applying additional acceleration. Plans have been made to carry out a number of investigations with this cyclotron especially since it is equipped to inject ions into the median plane (V. A. Gladyshev, et al., Trudy Mezhdunarodnoy Konferentsii po Uskoritelyam [Proceedings of the International Conference on Accelerators, Dubna, 1969], Moscow, Atmoizdat, 1964, p. 658. The cyclotron magnet assembly consists of three individual C-shaped

Card 1/3

UDC: 621.384.611



L 27967-66

ACC NR: AP6017683

magnets. This design provides for a very deep azimuthal variation of the magnetic field without requiring additional windings between the sectors and permits easy access to the chamber. The diameter of the magnet is 70 cm. The pole pieces are sectors with straight edges and 66 deg. angles. The supply current to the magnets is stabilized to  $3 \times 10^{-6}$ . Furthermore, the field of each magnet is stabilized by an independent proton stabilization circuit.

The pole pieces of the magnet serve partly as the covering of the vacuum chamber, and the chamber itself consists of several parts. Its main part has three triangular chambers made of brass, each bolted to the sides of the sector pole pieces of two adjacent magnets. Vacuum sealing is provided by lead wire which is laid on the joints between the various parts and is squeezed tight by special fittings. An N-5T type oil diffusion pump provides a vacuum of  $\sim 2 \times 10^{-6}$  mm Hg during operation with a beam.

Movable probes are available for observation of the beam. These probes can be positioned in any point of the vacuum chamber at the desired angle to the beam by virtue of a teflon sealed ball joint and a movable cross-bar that has Wilson-type teflon seals.

The source, together with the accelerator tube, can be moved in the median plane of the magnet, making it possible to vary the beam injection point within the chamber.

Card 2/3

L 27967-66

ACC NR: AP6017683

The accelerating voltage is produced on the dees by a generator that feeds energy to a quarter-wave spiral line made of copper pipe wound on a glass cylinder. Up to 20 kv are used on the dees for acceleration.

In addition to the structural design features (split magnet, disassemble-able vacuum chamber, spiral quarter-wave line), the cyclotron is equipped for external ion injection, which promises new ways of using polarized particle sources as well as other complex sources. [JPRS]

SUB CODE: 20, 13 / SUBM DATE: 09Feb65 / ORIG REF: 002

Card 3/3 CC

L 27968-66 EWT(m) IJP(c)

ACC NR: AP6017684

SOURCE CODE: UR/0089/65/019/005/0443/0443

AUTHOR: Gladyshev, V. A.; Katsaurov, L. N.; Kuznetsov, A. N.; Moroz, Ye. M.;  
Nechayeva, L. P. 54  
E

ORG: none

TITLE: Magnetic field of a 300 kev sector <sup>19</sup>cyclotron with external injection (entire article)

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 443

TOPIC TAGS: cyclotron, cyclotron magnet, deuteron, galvanometer, betatron, nuclear resonance, magnetic field, motion equation, computer calculation

ABSTRACT: This paper presents data on the magnetic field of a sector cyclotron with a split magnet designed to accelerate deuterons to 300 kev. The sectors of the cyclotron are displaced radially from the center of the magnet, and the cylindrical core is mounted in the center. The required field is obtained by empirical selection of magnet parameters.

Field measurements were made with the aid of a winding which is connected to a ballistic galvanometer and can be shifted step-wise. The winding, passing through the control points in the sectors, was shifted by 2 deg in azimuth and 1 cm radially. The field was measured in the control points by the nuclear resonance method.

The field focussing properties of an isochronic cyclotron depends on the depth of azimuthal variation and is determined by the betatron oscillation

Card 1/3

UDC: 621.384.611

I 27968-66

ACC NR: AP6017684

frequencies. The depth of the azimuthal variation is characterized by "flutter", which is defined as  $F = (\langle B^2 \rangle - \langle B \rangle^2) / \langle V \rangle^2$ .

When the radius in the given cyclotron is increased from 10 to 30 cm, flutter increases smoothly from 0.2 to 0.45. The amplitudes of the first and second harmonics of the field, characterizing the asymmetry of the magnetic field, are approximately one order smaller than the amplitudes that cause radial instability.

The equations of motion were integrated on a computer, with the measured field of the cyclotron given in the form of tables. This provided complete data on the behavior of particles and orbital parameters in a real field.

During the work, equilibrium orbits were constructed for various energies, and the mean magnetic field along the equilibrium orbits was calculated. There is an insignificant difference between the field obtained and an isochronic field, and the phase shift during acceleration from 40 to 300 keV is 6 deg as the energy increases by 10 keV per revolution. The orbital properties are especially evident on the so-called phase ellipses, which close after  $N$  revolutions;  $N$  is related to the betatron frequencies  $Q_1$  and  $Q_2$  by the relations

$$N_1 = (Q_1 - 1)^{-1} \text{ and } N_2 = (Q_2 - 1)^{-1}$$

By constructing ellipses for various energies and for different betatron amplitudes it was possible to establish that the maximum permissible amplitude of radial oscillations, which is 3 cm for 50 keV, increases with increasing energy to 5-6 cm for energies above 100 keV. The betatron

Card 2/3

I 27968-66

ACC NR: AP6017684

Frequencies calculated on the computer from the phase ellipses indicate that focussing is adequate over the entire range of energies.

Machine computed betatron frequencies were compared with frequencies calculated for assumed circular orbits. This comparison revealed that frequencies calculated by "smooth approximation" formulas, by formulas using harmonic field analysis, and formulas derived for an assumed stepwise field, differ from the computer results by 5 to 7%.

Analysis of the magnetic field indicates that the cyclotron design with split magnets easily produces an isochronic field with very deep azimuthal variation, providing good focussing for all orbits.

Orig. art. has: 1 formula. [JPRS]

SUB CODE: 20 / SUBM DATE: 29May65

Card 3/3 CV

ACC NR: AP7000797

SOURCE CODE: UR/0089/66/021/02/0390/0392

AUTHOR: Katsaurov, L. N.; Kuznetsov, A. N.

ORG: none

TITLE: Concerning the question of the drop of the neutron yield in tritium targets

SOURCE: Atomnaya energiya, v. 21, no. 5, 1966, 390-392

TOPIC TAGS: triton bombardment, neutron reaction, deuteron interaction, physical diffusion

ABSTRACT: The authors show that the observed drop in the yield of neutrons in the D T reaction reported in various investigations, can be only partially attributed to the energy loss in the carbon film produced by this reaction, but can be fully explained by means of the diffusion mechanism. In this mechanism the deuterium ions falling on the solid tritium target produce a concentration gradient which gives rise to diffusion of the hydrogen dissolved in the zirconium or titanium. When the amount of deuterium accumulated is sufficient to make the concentration of the particles near the surface of the target exceed the limiting concentration, equilibrium sets in, and hydrogen isotopes begin to be released from the target, the release of tritium and deuterium being proportional to their corresponding concentration. Consequently, the deuterium striking the target continuously depletes the tritium of the target. The differential equations of this process are presented and expressions are obtained for the tritium concentration, for the time of establishment of equilibrium, and for

Card 1/2

UDC: 539.172.13

ACC NR: AF7000797

the reaction tritium yield. The theoretical value obtained for this yield agrees well with experimental data. The authors thank I. Ya. Barit and I. M. Frank for numerous discussions of the results, and also A. V. Yeldipinskiy and V. P. Perelygin for help with the experiments. Orig. art. has: 3 figures and 7 formulas.

SUB CODE: 18, 20/    SUBM DATE: 24Aug65/    ORIG REF: 002/    OTH REF: 005

Card 2/2

KATSAUROV, I.N., kand. tekhn. nauk

Arched shape of concrete roof lining and methods of its calculation.  
Gor. zhur. no.9:24-27 S '65. (MIRA 18:9)

1. Moskovskiy institut radioelektroniki i gornoy elektromekhaniki.



L 3777-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS  
ACCESSION NR: AT5007946

S/0000/64/000/000/0658/0661

30  
29  
EJ

AUTHOR: Gladyshev, V. A.; Katsaurov, L. N.; Kuznetsov, A. N.; Martynova, L. P.;  
Horož, Ye. N.

TITLE: Concerning the input of ion beam into a cyclotron /9

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963.  
Trudy. Moscow, Atomizdat, 1964, 658-661

TOPIC TAGS: cyclotron, particle beam

ABSTRACT: The problem of the external injection of ions into a cyclotron remains especially pressing in connection with the problem of the acceleration of polarized ions, because the source of polarized particles, like some other complex sources, cannot be situated at the center of the cyclotron. Since, in the case of external injection, the acceleration begins with a certain initial energy, it is possible to avoid a number of difficulties connected with the first revolutions in the central portion of the cyclotron. One of the procedures for solving this problem is to input the beam along the vertical axis of the cyclotron and turn it by an electrostatic deflecting system through 90° into the median plane. The most substantial deficiencies, it seems, of axial input of the beam is the considerable losses and

Card 1/4

L 3777-66

ACCESSION NR: AT5007946

the complexity of the deflecting system. The present report indicates how it is possible to realize external beam injection in the median plane of the magnet. This can be done especially simply in sector cyclotrons. In a nonhomogeneous magnetic field, charged particles experience a drift across the gradient of the magnetic field. It is expedient to take advantage of this in the sector cyclotron by directing the beam of particles so that they drift up to the central region of the cyclotron along the boundary of one of the sectors. In the central region it is possible with the help of a cylindrical electrostatic field to transfer the particles to the trajectory required later. In the case of a homogeneous magnetic field, which almost always holds true at the central region of sector cyclotrons, the minimum electrical field strength  $E_{\min}$  in the cylindrical condenser that is necessary for the transfer of the particles from one trajectory to another can be represented by the formula

where  $W$  is the kinetic energy of the particles in keV;  $R$  is the radius of curvature (for a nonrelativistic single-charged ion,  $R = 4.57 \cdot 10^3 \frac{\sqrt{W}}{H}$ );

Card 2/4

L 3777-66  
ACCESSION NR: AT5007946

$M$  is the mass of the ion in units of the mass of the nucleon;  $\phi$  is the angle between the trajectories at the point of their intersection. As it turns out, it is possible to choose the place for injecting the particle beam such that it will always be focused on its path along the magnet sector. On the path to the central region of the cyclotron it is possible to describe a series of loops, and also the frequency of a particle's revolution (more precisely, the frequency of loop formation). The quality of the magnetic focusing of the particles is characterized by the ratio of the frequencies of the particles' horizontal and vertical oscillations to the mentioned frequency of loop formation. The radial focusing of the ions in the magnetic system considered almost does not differ from focusing in a homogeneous magnetic field. Similar considerations hold for the vertical focusing of the ions. The conditions for the stability of the vertical motion of the ions are characterized by inequalities involving the magnetic field in the gap between the sectors in the region of beam passage. In the case of the authors' cyclotron, there always exists a wide interval of initial distances of the beam from the sector boundary for which the injected ions can reach the central region of the cyclotron magnetic without experiencing defocusing. The experimental verification of the possibility of external injection by the considered method was carried out on a three-sector cyclo-

Card 3/4

L 3777-66

ACCESSION NR: AT5007946

tron with straight sector borders (magnet diameter--720 mm; accelerated particles--350 Kev deuterons). The experimental set-up and results are described in the present report. Orig. art. has: 4 figures.

ASSOCIATION: Fizicheskiy Institut imeni P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 26May64

ENCL: 00

SUB CODE: NP

NO REF SOV: 000

OTHER: 001

*mlr*  
Card 4/4

*Katsavela*

RUMANIA / Cultivated Plants. Fruits, Berries

L-6

Abs Jour : Ref Zhur - Biol., No 6, March 1957, No 22849

Author : Katsavela

Inst : Not Given .

Title : Some Problems of Cultivation of Grapevines in Khunedoar Oblast

Orig Pub : Gradina, via si livada, 1956, 5, No 8, 35-36

Abstract : In order to cultivate grapes successfully, provision should be made to restore and repair the old economically unprofitable vineyards; to assign areas for new plantings, to insure establishment of vineyards with planting materials. It is recommended that areas for table and wine varieties be brought to a ratio of 3 to 7. The necessity of districting stocks and cultivating stock and scion planting material locally is emphasized.

Card : 1/1

KATSAY, A.L.

Shop repair of TB3 diesel locomotives. Elek. i tepl.tiaga 2 no.4:24-27  
Ap '58. (MIRA 12:3)

1. Nachal'nik lokomotivnogo depo Petropavlovsk Omskoy dorogi.  
(Diesel locomotives--Maintenance and repair)

KATSAY, A.L.

Two-man crew for the TE3 articulated diesel locomotive. Elek. i  
tepl. tiaga 2 no.9:16-17 S '58. (MIRA 11:10)

1. Nachal'nik lokomotivnogo depo Petropavlovsk, Omskaya doroga.  
(Diesel locomotives)

KATSAY, A.I.

Simple method of economizing on diesel fuel. Elek. i tepl. tiaga  
3 no.1:31-32 Ja '59. (MIRA 12:2)

1. Nachal'nik lokomotivnogo depo Petropavlovsk, Omskaya doroga.  
(Diesel locomotives--Fuel consumption)



KATSAY, A.L.

We are perfecting the repairing technology. Elek.i tepl.  
tiaga 3 no.11:9-10 N '59. (MIRA 13:3)

1. Nachal'nik depo Petropavlovsk Omskoy dorogi.  
(Railroads--Maintenance and repair)

KATSAY, A.I.

Comments and wishes for the reference book. Elek.i tepl.tiaga 4  
no.2:48-3 of cover. F '60. (MIRA 13:6)

1. Nachal'nik depo Petropavlovsk, Omskoy dorogi.  
(Diesel locomotives)

KATSAY, A.L.

Factory trade-marks should be respected. Elek. i topl. tiaga 4  
no.10:4-5 0 '60. (MIRA 13:10)

1. Nachal'nik depo Petropavlovsk Omskoy dorogi.  
(Railroads--Repair shops)

KATSAY, A.L.; BELYAYEV, A.I., inzh.

Improving the hydromechanical reduction gear of the TE3 diesel locomotive. Elek.i tepl.tiaga 6 no.2:5-6 F '62. (MIRA 15:2)

1. Nachal'nik depo Petropavlovsk Yuzhno-Ural'skoy dorogi (for Katsay).

(Diesel locomotives--Design and construction)

KATSAY, A.L.

Chrome and zinc plating of diesel locomotive parts. Elek.i tepl.  
tiaga 7 no.2:4-7 F '63. (MIRA 16:2)

1. Nachal'nik depo Petropavlovsk Yuzhno-Ural'skoy dorogi.  
(Diesel locomotives)

SA

B64  
P

621.317.733.012.3

164. A contribution to the measurement of inductances by means of a Maxwell-Wien bridge. J. KATCINA, *Elektrotech. Obozr.* 58: 152-61 (May, 1957) in Czech.

The origin of the well-known difficulties in using a Maxwell-Wien bridge circuit for measuring inductances with relatively large loss angles is explained in detail and, by means of a nomogram, the effects of the variable elements on the bridge are analyzed. A method of using the bridge for measuring inductance with any given loss angle is described; the nomogram shown and the general conclusions reached can be applied to any bridge circuit.

H. NOBIL

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

**"APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000721130002-5**

**APPROVED FOR RELEASE: 06/13/2000**

**CIA-RDP86-00513R000721130002-5"**

KATSCHER, J

SECRET  
On the microphony of electronic circuits

... of a ... are ...

...

...



KATSCHER

Vladimir Kratochvil's Vyroba elektronek a zarivek (Production of Electron  
Tubes and Fluorescent Lamps); a book review. p. 103.  
SLABOPROUDY OBZOR, Praha, Vol. 16, no. 2, Feb. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955,  
Uncl.

KATSOHER T

64

...change in the cathode interface from  
...change of the contact potential in the  
...number of species  
...double layer  
...cathode

3  
191

KATSCHER, J., TEKVERK, V.

Czechoslovakia

Hochvakuumroehren fuer mathematische Gerate

SO: Nachrichten-Technik, March 1956, Unclassified.

KATSCHER, J. V.

Katscher, J. V.

Katscher, J. V. Pilat's Navody k zakladnim fysikalnim merenim (Instructions for basic physical measurements); a book review. p. 513.

Vol. 17, no. 9, Sept. 1956  
SLABOPROUDY OBZOR  
TECHNOLOGY  
Czechoslovakia

So. East European Accessions, Vol. 6, May 1957  
No. 5

KATSCHER, J.

Katscher, J.

Katscher, J. Notes on the problem of vacuum division; contribution to a discussion. p. 515.

Vol. 17, no. 9, Sept. 1956

SLADOPROUDY OBZOR  
TECHNOLOGI  
Czechoslovakia

So. East European Accessions, Vol. 6, May 1957  
No. 5

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721130002-5

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721130002-5"

CZECHOSLOVAKIA/Magnetism - Experimental Methods of Magnetism.

F

Abs Jour : Ref Zhur Fizika, No 8, 1959, 17982

Author : Katscher, Jindrich

Inst :

Title : Electronic Tube Controlled by Magnetic Field

Orig Pub : Slaboproudy obzor, 1958, 19, No 10, 658-660

Abstract : Description of a electronic beam tube with two anodes, controlled by a magnetic field. This electronic tube is suitable for the measurement of the intensity of the magnetic field or, if connected to a reactance coil, for the measurement of current. It has that advantage, that it protects reliably the measuring instruments against over-loading, in the case of short circuits in the measuring circuit.

Card 1/1

L 12231-03

EWT(d)/FGG(w)/BDS ASD/SPGG

Pg-4/Pk-4/Po-4/Pq-4 03/1963/  
S/271/63/000/004/039/045

170

AUTHOR: Katscher, Jindrich and Junger, Vladimir --

TITLE: An accessory for reversible positioning of the recording medium of memory devices [ ]

PERIODICAL: Referativnyy zhurnal, Avtomatika, telemekhanika i vychislitel'naya tekhnika, no. 4, 1963, 41, abstract 4B227 (Czechosl. pat. k. zh. n. 32; USA. 41/62, no. 103339, 15.02.62)

TEXT: The text describes a mechanical accessory for shifting a recording medium in the form of a rectangular plate and made from reliable and resilient material, from storage cassette to recording and counting devices, and the recording medium may be a plastic card (such as a perforated card) with a ferromagnetic layer. The principle of the mechanism is based on the fact that the card passes between three revolving rollers with resilient suspension. The axes of the rollers are parallel and are disposed in a single plane. In one direction the card passes between the extreme and middle rollers; in the reverse direction, between the other extreme and middle rollers. If the rollers revolve continuously in one direction, setting both extreme rollers in motion, the card is moved in the reverse direction. Three variants of the mechanism

Card 1/2



L 12231-53

S/271/63/000/004/039/015

An accessory for .....

on this principle are described. There are 4 illustrations. V. S.

[Abstracter's note: Complete translation]

Card 2/2

KAGAN, D.Z.; KATSEF, Yu.I.

Heightened sensitivity to streptomycin. Zdrav.Belor. 5 no.1:60  
Ja '60. (MIRA 13:5)

1. Iz voyennogo gospitalya.  
(TUBERCULOSIS) (STREPTOMYCIN)

KATSEFANE V.A.

Specific Prevention of Pertussis, published by MEDITS, MOSCOW, 1970  
The Institute of Hygiene and Microbiology in M. P. Gamaleya, Acad. Medical Sci.  
USSR, together with other institutions and medical establishments, papers were read by  
the following! (See Table of Contents)

At the scientific conference on the specific prophylaxis of pertussis conducted by  
the Institute of Hygiene and Microbiology in M. P. Gamaleya, Acad. Medical Sci.  
USSR, together with other institutions and medical establishments, papers were read by  
the following! (See Table of Contents)

M. S. Zakharenko (Inst. of Hygiene and Microbiology, in M. P. Gamaleya Acad. Medical Sci. USSR)	3
M. V. Gordin and I. S. Lashchenko (same as Zakharenko): Effectiveness of pertussis immunization in epidemiologic observations	39
M. A. Rudakovskiy (Zhd Moscow Med. Inst. in M. P. Gamaleya): Clinical- epidemiologic effectiveness of the pertussis vaccine in epidemics	39
A. V. Silchenko (Inst. of Pediatrics and Neonatology): Clinical study of pertussis in children vaccinated with pertussis vaccine	37
T. S. Pilyaeva et al. (New Inst. of Epidemiol. Microbiol. and Hygiene and Inst. for the Care of Mothers and Children of the USSR): Effectiveness of vaccination with pertussis vaccine among infants in the Moscow Railroad City Bureau.	44
M. S. Zakharenko and T. I. Prudnyaya (Central Scientific Res. Lab. of Hygiene and Epidemiology of the Ministry of Communications USSR): Effectiveness of vaccination with pertussis vaccine among infants in the Moscow Railroad City Bureau.	33
B. Y. Gerasimov et al. (Marine Scientific Res. Inst. for Vaccines and Sera): Effectiveness of vaccination against pertussis in epidemiologic observation.	39
M. V. Gordin and T. S. Lashchenko (see above): Epidemiologic effectiveness of pertussis-diphtheria vaccination	44
I. S. Rudakovskiy (Republican Sanitary-Epidemiologic Station of the Ministry of Health of the Georgian SSR): Epidemiologic and immunologic effectiveness and seropositivity of the pertussis- diphtheria vaccine	78
I. P. Zhuravskiy et al. (Tashkent Scientific Res. Inst. for Vaccines and Sera): Seropositivity and epidemiologic effectiveness of diphtheria-pertussis-diphtheria and pertussis vaccines	87
M. A. Kamalova (Leningrad Inst. of Epidemiol. Microbiol. and Hygiene in Pskov): Data on seropositivity and immunologic and epidem- iologic effectiveness of the pertussis and pertussis-diphtheria vaccine	93
S. S. Pilyaeva et al. (The Central, etc. see Zakharenko above): Experiments in the use of pertussis and pertussis-diphtheria vaccines in children's institutions of the Railroad Transport System	101
V. A. Katsefane (Republican Sanitary-Epidemiologic Station of the Moscow SSR): Study of seropositivity and epidemiologic effectiveness of pertussis and pertussis-diphtheria vaccine	112

COUNTRY : USSR M  
CATEGORY : Cultivated Plants. Potatoes. Vegetables.  
Cucurbits.  
ABS. JOUR: 2-1 Znan.-biologiya. No.1, 1959 No. 1675  
AUTHOR : Kausen, D.G.  
TITLE : Domestic Pepper Varieties of the Moldavian  
Socialist Soviet Republic.  
ORIG. PUB.: Sad i osnovy, 1958, No.6, 24-25  
ABSTRACT : No abstract.

CARD: 1/1

KHARAGORGIYEV, S. Ye., inzh.; KATSEN, E. I., inzh.; SHPARAGA, I. D.,  
inzh.; MASSOVER, N. S., inzh.

Specialization in founding. Mashinostroenie no.5:35-38 S-0 '62.  
(MIRA 16:1)

1. Ukgiprostanok.

(Founding)

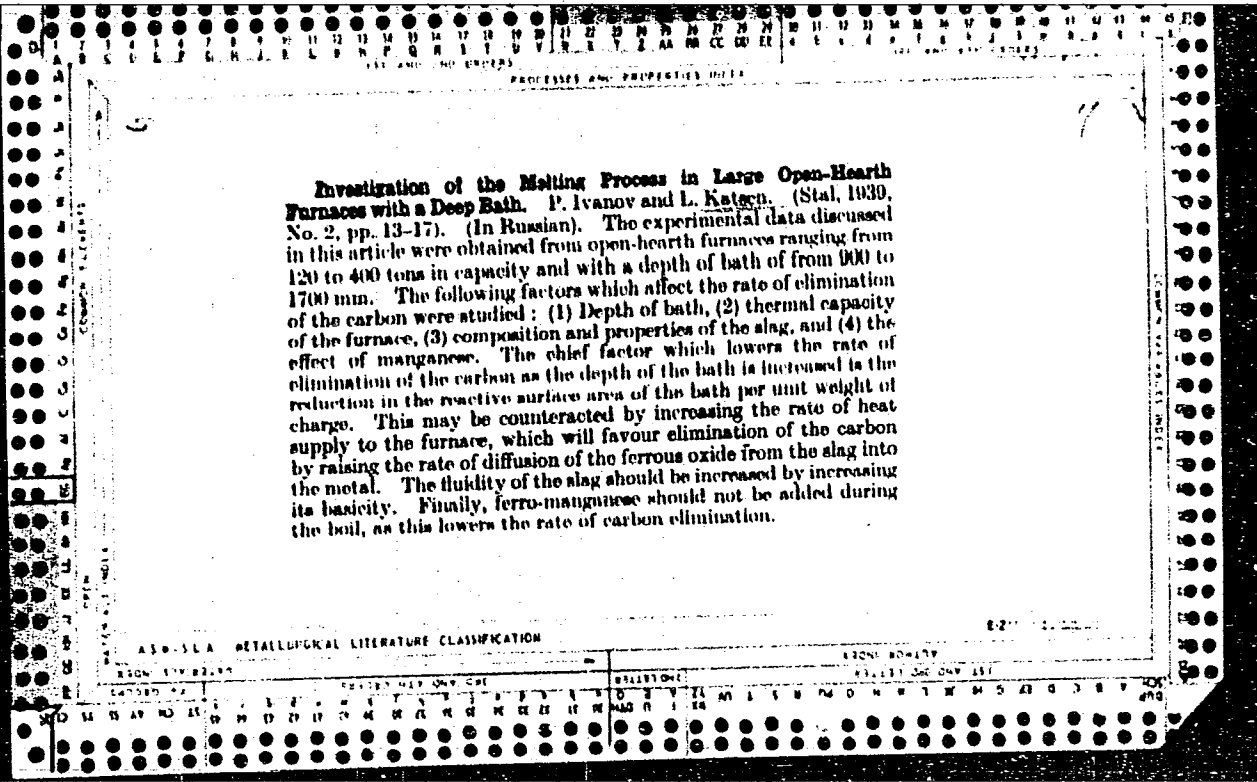
TIT AND THE TITRIM  
PROCESSES AND PRESENTATION

**Effect of manganese concentration on the rate of combustion of carbon and on the quality of steel.** L. Katsen and Olenhaeden. *Metallurg* 13, No. 9, 37 (1938); *Chimie & Industrie* 42, 270. Addn. of ferro-Mn during the fusion of steel is undesirable because it considerably reduces the rate of combustion of C and thereby affects the quality of the steel. The optimum Mn content of the steel is not always the same: if the Mn comes from reduction of the slag, the optimum is 0.35-0.45%; if it comes from the addn. of ferro-Mn it should not exceed 0.32%.

A. Poincaré-Couture

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

WATERMARK INDEX												WATERMARK INDEX											
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V		



PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS

14D AND 6TH CROSS

1ST AND 2ND ORDERS

S

7

The Influence of Some Process Factors on the Gas Content of Molten Steel. L. Kalugin and A. Bulavkin. (Stal, 1940, No. 10, pp. 16-20). (In Russian). The hydrogen content of samples taken at various stages of fifty heats in 120-150-ton basic open-bearth furnaces was determined, and the results are discussed from the point of view of the effect of various process factors. The hydrogen content of molten steel during the melting period increased continuously, and this period should therefore be shortened by increasing the supply of heat to the furnace. The percentage of iron ore added to the molten steel plotted against the gas content of the metal at the beginning of the subsequent boil gave a curve showing least gas at between 2% and 4% ore. Bauxite added during this period should be dried. Bauxite added during the period of the boil increased the gas content. Such additions should therefore be reduced to a minimum, the requisite slag being formed in the preceding stages of the heat. During the boil, rapid elimination of the carbon and a low viscosity of the slag result in reductions of the gas content. During the subsequent deoxidation the gas content is increased by the addition of ferro-alloys; consequently the manganese content of the metal should be controlled to reduce the amount of deoxidisers required.

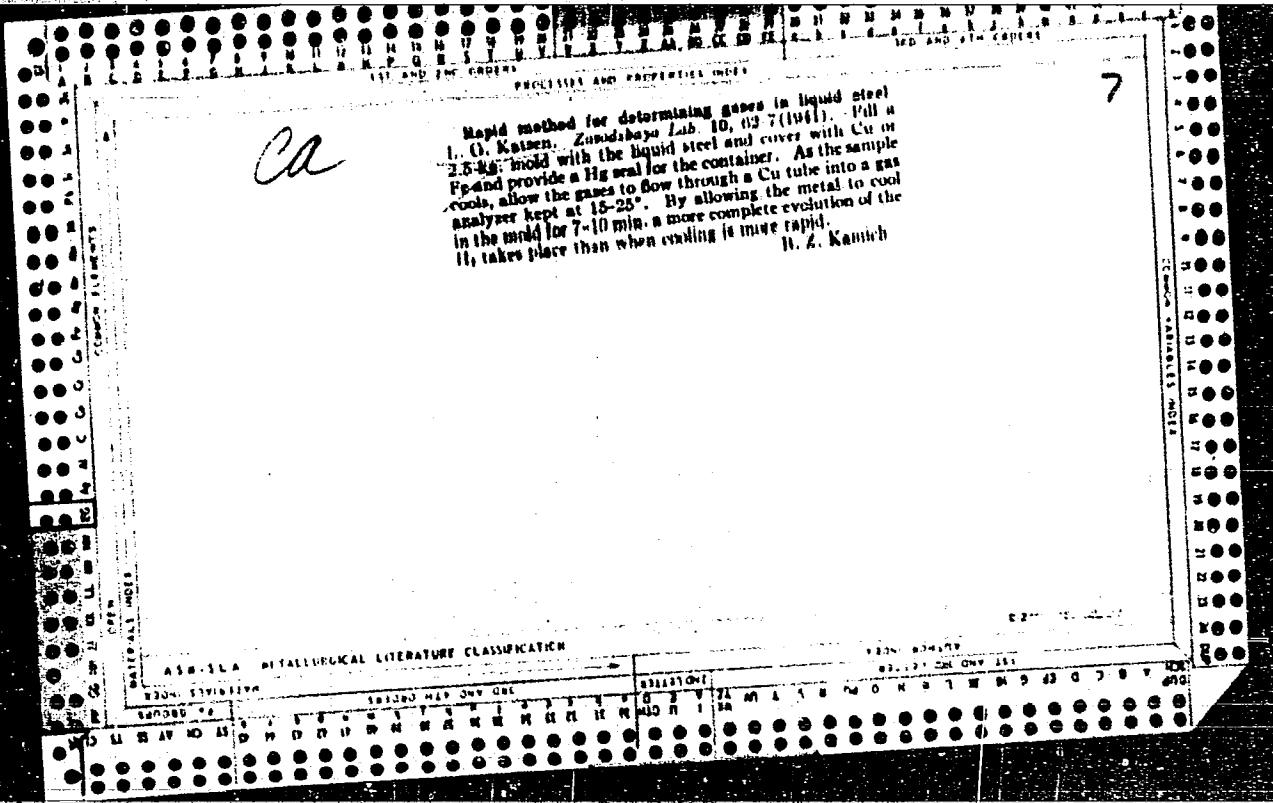
*Evaluation B-58894*

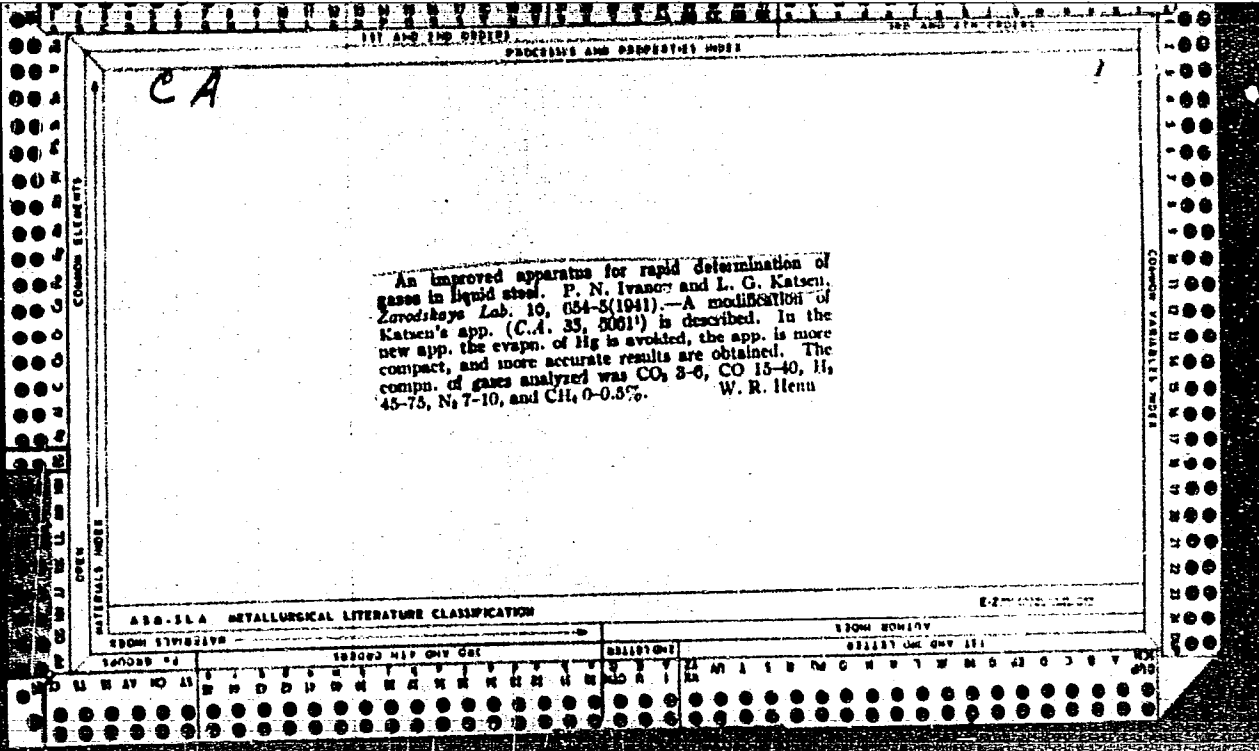
ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

1ST AND 2ND ORDERS







KATSEN, L.G.

KATSEN, L.G.; STYCHINSKIY, I.P.

[Work methods for bloomin mill operator foremen] Metody raboty starshikh operatorov bluminga. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po cherno i tsvetnoi metallurgii, 1953. 43 p. (MLBA 7:6)  
(Rolling (Metalwork))

KATSEN, Leontiy Grigor'yevich; APTEKAR', Saveliy Semenovich; KOVAL',  
Trofim Fedotovich; LEBEDINSKIY, Boris Ivanovich; SHALGANOVA,  
V.N., red.; SAMOLETOVA, A.V., tekhn. red.

[A new wage system in metallurgical plants] Novaya sistema op-  
laty truda na metallurgicheskikh zavodakh. Stalino, Stalinskoe  
oblastnoe knizhnoe izd-vo, 1959. 108 p. (MIRA 14:10)  
(Volgograd Province—Wages—Steel industry)