

GONCHAR, L.P.

KARLYUK, A.M., vet. vrach (st. Konstantinovka, Khmel'nitskoy oblasti);
GONCHAR, L.P., vet. vrach.

Use of a new dye for stamping meat. Veterinariia 35 no.6:40-41
Je '58. (MIRA 11:6)

(Meat inspection)

GONCHAR, M.A. (Zaporozh'ye, prospekt Lenina, d.192, kv.192)

Extraperitoneal rupture of the urinary bladder in transvesical
adenomectomy. Nov. khir. arkh. no.1:120-121 Ja-F '61. (MIRA 15:2)

1. Urologicheskoye otdeleniye (zav. - V.Ye.Kir'yakov) Zaporozhskoy
oblastnoy bol'nitsy.

(BLADDER RUPTURE) (TUMORS)

GONCHAR, M.A.

Rare case of posttraumatic cyst of the clitoris with suppuration.
Akush. i gin. 40 no.2:127 Mr-Ap '64.

(MIRA 17:11)

1. Kafedra urologii (zav. - doktor med. nauk V.T. Karpukhin) Zaporozhskogo instituta usovershenstvovaniya vrachey imeni Gor'kogo.

GONCHAR, M.A., assistant (Zaporozh'ye, 33, prospekt Lenina, 192, kv.192)

Plastic surgery on the urethra injured in a pelvic fracture. Vest.
zhur. 92 no.6:96-97 Je '64. (MIRA 18:5)

1. Iz kafedry urologii (zav. - prof. V.T. Karpukhin) Zaporozhskogo
instituta usovershenstvovaniya vrachey imeni Gor'kogo.

GONCHAR, M.A.

Fixation of a **floating** kidney using cutaneous pedicle flaps.
Urologia. no.5:20-23 '64. (MIRA 18:8)


1. Urologicheskaya klinika (zav. - prof. V.T.Karpukhin)
Zaporozhskogo instituta usovershenstvovaniya vrachey imeni
Gor'kogo.

S/091/60/000/011/001/002
A163/A026

AUTHORS: Berezina, T.G. and Gonchar, M.I., Engineers

TITLE: Damages on Pipelines of High and Superhigh-Parameter Boilers

PERIODICAL: Energetik, 1960, No. 11, pp. 9-11

TEXT: High and superhigh-pressure pipelines are frequently defective due to imperfect production technology. Such defects usually occur during the first 1,000 to 3,000 service hours of the boilers. They may result from poor rolling, overheating, damaging of carbon pipes used instead of alloyed ones, and defects during the welding process. Damages on superhigh-parameter pipelines, caused by defective welding, show up during the first 500 to 1,000 service hours. A honeycomb in a pipe of the second-step steam superheater on a continuously-operating coil boiler is shown. The pipe was made of 1X18H12T (1Kh18N12T) steel. The formation speed of such honeycombs may be quite different. An analogous honeycomb came about in the austenite steam-superheating pipe after 3,000 service hours due to internal lamination. Other damages on austenite pipes, especially on steam pipes with diameters of 219 x 30 mm and 194 x 28 mm, resulting from defective production technology and attaining a depth of 1.5 mm, are caused by surface cracking. These crackings may become annular honeycombs. Defects caused by wrong rolling. 

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Damages on Pipelines of High and Superhigh-Parameter Boilers

ling may also be found on pipes made of perlite steel. The shield pipe on the ПК -10 (PK-10) boiler at the Yuzhnoural'skaya GRES (Southern Urals State District Power Plant), having been in operation for 33,000 hours, suddenly burst. Widespread defects on thin-wall heating-surface pipes, especially on economizer ones, are caused by the formation of a zone of burning or decarbonization during the process of contact welding at a distance of 15 to 25 mm from the seam. As a rule, this results in the formation of a Widmanstaetten structure in the burnt zone. The exterior of such a honeycomb at a distance of 20 mm from the contact welding, and the microstructure of the honeycomb zone are shown. Carbon pipes with a diameter of 38 x 4.5 mm may be in operation for 10,000 to 25,000 hours at $T = 510^{\circ}\text{C}$ and $p = 110$ atm. Investigations carried out revealed that the diameter of such a pipe increases remarkably. An effective method of discovering cracks in welded seams of pipes made from perlite steel is the ultrasound flaw detection. Color crack detection, however, is most suitable for discovering cracks in austenite steel pipes. In most cases, cracks are caused by defective welds, caused by the use of low-quality electrodes, welding of non-heated metal, impeded shrinkage of the built-up metal, and additional stress during the thermal treatment. ✓

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Damages on Pipelines of High and Superhigh-Parameter Boilers

Examinations were conducted by the ultrasound flaw-detection method on seams of steam pipes made from 15XM (15KhM) and 12 MX (12MKh) steel. Engineers detected 2 to 15-mm deep cracks in the welded seams. A number of defects resulted also from contact welding. To prevent improper welding of pipes the authors suggest the following: to control the quality of pipes turned out, especially that of austenite ones; modernize the welding equipment to secure high-quality contact welding, and to use the magnetographic crack detection method for discovering flaws in the zone of contact welding; apply a system of marking pipes meter by meter; and to control welded seams in new and old steam pipes by the ultrasound detection method. There are 4 photographs.

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GONGHAR, M.I., inzh.; KHROMCHENKO, F.A., inzh.

Effect of thermal treatment on the characteristics of the welded joints of surface heating pipes from 12Kh1MF steel during their installation. Energ. stroi. no. 4:14-18 '65. (MIRA 18:12)

GONCHAR, M. P.; PAVLENKO, Yu. S.

Shoe Machinery

Electric heat for presses used in hot vulcanization of shoe soles, Leg. prom.,
12, No. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, October 1952, Uncl.

GONCHAR, M. P., Cand Tech Sci -- (diss) "Study of dynamic phenomena in a chain pulsating conveyor." Dnepropetrovsk, 1958. 16 pp with ill^es (Min of Higher Education Ukr SSR, Dnepropetrovsk Order of Labor Red Banner Metallurgical Inst im I. V. Stalin), 200 copies[✓] (KL, 35-58, 107)

GONCHAR, M.P., inzh.

Equivalent systems of chain conveyers. Izv.vys.uchev.zav.; tekhn.
leg.prom. no.3:147-153 '60. (MIRA 13:8)

1. Kiyevskiy tekhnologicheskoy institut legkoy promyshlennosti.
Rakomendovana kafedroy detaley mashin.
(Conveying machinery)

GOLOVNIN, Grigoriy Yakovlevich; BONDARCHUK, A.S., otv. red.; GONCHAR,
M.P., otv. red.; LIBERMAN, S.S., red. izd-va; ANDREYEV, S.P.,
tekhn. red.

[Dynamics of cables and chains] Dinamika kanatov i tsepei.
Khar'kov, Metallurgizdat, 1962. 124 p. (MIRA 15:6)
(Chains) (Cables)

Gonchar, M. T.

USSR/Plant Physiology - Water Regimen

I.

Abs Jour : Ref Zhur - Biol., No 18, 1958, 82015

Author : Gonchar, M.T.

Inst : Khar'kov Agricultural Institute.

Title : Some Data on the Transpiration of Natural Pine Tree Undergrowth.

Orig Pub : Zap. Khar'kovsk. s,-kh. in-ta, 1957, 13(50), 93-98

Abstract : The transpiration of the pine tree undergrowth, disposed in groups or singles in the Zadonetz forest, was studied by means of Ivanov's method. When the air and the soil had a high humidity percentage, no difference in transpiration was observed in pine trees disposed in biogroups or singly. When the weather was dry, the plants in biogroups utilized the moisture much more profitably than the solitary ones (the intensity of transpiration was lower,

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USSR/Plant Physiology - Water Regimen

I.

Abs Jour : Ref Zhur - Biol., No 18, 1958, 82015

but the growth, number of coniferous needles and size of needles were greater). The plants in groups fared better than the solitary ones upon creating of average conditions which would influence the plants positively.
-- T.V. Kirillova

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USSR / Forestry. Biology and Typology.

K-2

Abs Jour: Ref Zhur-Biol., No 16, 1958, 72777.

Author : ~~Gonchar, M. T.~~
Inst : Kharkov Agricultural Institute.
Title : Biological Groups of Young Stock in Pine Forests
of Southern Forest Steppes.

Orig Pub: Zap. Khar'kovsk. s.-kh. in-ta, 1957, 16(53), 117-133.

Abstract: The peculiarities were studied of the spread of young pine stock on cuttings and under the canopy of the mature timberstand in the Zdonetskiy Forest (Khar'kovskaya Oblast) in 1952-1954. It was established that the young stock is located in biogroups, in which 66.7-78.5% of all young pines are concentrated. This phenomenon is conditioned by the heterogeneity of the environments (which are described) which influence the develop-

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USSR/Forestry - Biology and Typology of the Forest.

K.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67986

Author : ~~Gonchar, M.T.~~

Inst : Khar'kov Agricultural Institute.

Title : The Effect of Group Cultivation of Pine Undergrowth on the Conditions of the Micro-Environment.

Orig Pub : Zap. Khar'kovsk. s.-kh. in-ta, 1957, 16 (53), 135-150.

Abstract : Researches in the Trans-Donets Forest have demonstrated that the cultivation of pines in biogroups to the age of 15 or 20 years tends to moderate the microclimate; this is especially noticeable on hot days. The difference in the air temperatures at a height of 0.1 meter is frequently as high as 2-3 degrees, the temperature in the biogroups always being lower than in the clearings. There is a noticeable tendency toward a temperature increase in the air

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USSR/Forestry - Biology and Typology of the Forest.

K.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67986

above the biogroups, at a height of 2 meters, as compared with the temperature at the same height in the clearings. Individual pines also create their own microclimates, but the total effect of these is not significant. In the biogroups the humidity of the 1.5-2 meter air layer on hot days is greater than in the clearings. The differences appear clearly in the wind regimes of the biogroups and the clearings, especially at the 1.5 meter height. In the biogroups the evaporation from free surface is four times weaker than in the clearings, and under single pine trees it is 2.8 times weaker. Any change in the situation above the surface of the soil has a material effect on the soil microclimate. The greatest difference between the temperatures in the biogroups and in the clearings is at the surface (up to 81.2%); with depth the temperatures gradually coincide until at a depth of 20 cm. there is almost no difference. In the biogroups the 1-meter soil layer

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USSR/Forestry - Biology and Typology of the Forest.

K.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 67986

was moister than in the clearings and under individual pine trees. On the whole, the soil microclimate under the biogroups was more favorable than in the clearings and under individual pines. -- V.V. Protopopov

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GONCHAR, P.

AID P - 2674

Subject : USSR/Aerodynamics
Card 1/1 Pub. 58 - 12/20
Author : Gonchar, P.
Title : ~~Results of the competition in aviation model engines~~
Periodical : Kryl. rod., 7, 16-18, J1 1955
Abstract : Three distinguished model engines by the jury are shown, described and compared. Names of designers are given. Some model jet engines are mentioned as having not met the conditions of the competition. The creative work in this field of Vasil'chenko, M., is mentioned. Diagrams.
Institution : DOSAAF
Submitted : No date

GONCHAR, P. D.

GONCHAR, F. D. "On the operation of chamber dryers for drying bricks", *Mest. stroit. materialy*, 1946, Issue 7, p. 10-18.

SO: U-3042, 11 March 53, (*Letopis 'Zhurnal 'nykh Statey*, No. 7 1949).

BCS GONCHAR, P. D.

ing

217a. The combined drying and grinding of clay in a shaft mill.--P. D. GONCHAR (Stek. Korm., 8, No. 2, 10, 1981). In brick plants where the dry-pressing method is used, grinding and drying are separate. Expts. were carried out on the simultaneous grinding and drying of clay in a shaft hammer-mill designed to grind plaster. The mill proper is situated at the bottom of a 10-m. metal shaft (1.1 x 0.7 m.). The mill is rotated by a 75-kW motor coupled direct to the mill. Small particles are carried by the hot gas current. The unit works on waste gases from boilers. The max. temp. of these gases in the shaft is 800°-850° C. Small particles carried by hot gases are collected in a cyclone dust extractor, and then exhausted by a fan. The whole system is under negative pressure. The expts. showed that this unit is unsuitable for the combined grinding and drying of clay unless modified. The mill should have small dimensions and a high rotation speed. This would allow small volumes of gases at a high temp. to pass at a high speed, which would ensure the transportation of 2-3 mm. particles. This would also improve the efficiency and reduce the power consumption. It would also be advisable to alter the recirculation of gases. (3 fig., 1 table.)

GONCHAR, P. D.

BULAVIN, I.A.; GONCHAR, P.D.; NOSOVA, T.A., redaktor; MEL'NIKOVA, N.V.,
tekhnicheskiy redaktor.

[Brief manual on brick and tile production] Kratkii spravochnik po
proizvodstvu kirpicha i cherepitsy. Moskva, Gos. izd-vo mestnoi i
toplivnoi promyshl. RSFSR, 1954. 431 p. (MIRA 7:12)
(Brick industry) (Tiles)

GONCHAR, P.D.

Improvement of the control of technological processes in the
building materials industry. Zhur. VKHO 5 no. 2:228-229 '60.
(MIRA 14:2)

(Building materials) (Production control)

GAK, B.N., kand.tekhn. nauk; GERVIDS, I.A., kand. tekhn. nauk; GONCHAR, P.D., inzh.; VASIL'KOV, S.G., kand. tekhn. nauk; YEVNEVICH, A.V., kand. tekhn.nauk; KIPTENKO, A.K., inzh.; LUNDINA, M.G., kand. tekhn.nauk; NAUMCV, M.M., kand. tekhn. nauk; PATRIK, S.A., inzh.; POPOV, L.N., kand. tekhn. nauk; ROGOVOY, M.I., inzh.; SEDOV, V.G., inzh.; SOKOLOV, Yu.B., inzh.; FRANCHUK, K.O., inzh.; KHAYKIN, V.Ya., inzh., nauchnyy red.; CHIBUNOVSKIY, N.G., inzh., nauchnyy red.; NOKHRATYAN, K.A., red. [deceased]; GUZMAN, M.A., red; QURVICH, E.A., red.; BOROVNEV, N.K., tekhn. red.

[Handbook on the production of structural ceramics]Spravochnik po proizvodstvu stroitel'noi keramiki. Moskva, Gosstroizdat. Vol.3.[Wall and roofing ceramics]Stenovaia i krovel'naia keramika. Pod red. M.M.Naumova i K.A.Nokhratiana. 1962. 699 p. (MIRA 16:1)

(Ceramics) (Building materials industry)

NESTEROVSKIY, B., starshiy inzhener; GONCHAR, V., dispatcher

Organize transportation-dispatch servicing in harbors.
Mor.flot. 20 no.8:6-7 Ag '60. (MIRA 138)

1. Otdel truda i zarplaty Nikolayevskogo porta (for
Nesterovskiy). 2. Skladskaya chast' 1-go uchastka
Nikolayevskogo porta (for Gonchar).
(Harbors) (Cargo handling)

GONCHAR, Vitaliy Fedos'yevich [Honchar, V.F.]; LEVITSKAYA, G.P.
[Levyts'ka, H.P.], red.; NEMCHENKO, I.Yu., tekhn. red.

[Electric household appliances] Elektrychni rpylady v
pobuti. Kyiv, Derzhsil'hospvydav, URSR 1962. 93 p.
(MIRA 16:5)

(Household appliances, Electric)

SKORYKH, S.S.; PANOV, V.A.; PODORVANOV, A.Z.; GONCHAR, V.G.; KUL'IDA, V.M.

Ways of improving transportation in an open pit of the Krivoy Rog
Southern Mining and Ore-dressing Combine. Sbor. nauch. trud.
NIGRI no.7:52-59 '60. (MIRA 14:12)
(Krivoy Rog Basin--Mine railroads)

L 08493-67

ACC NR: AR6016465

(N)

SOURCE CODE: UR/0124/65/000/012/B070/B071

31
P

AUTHOR: Gonchar, V. K.

TITLE: Investigation of problems in the operation of regenerative turbines under variable conditions

SOURCE: Ref. zh. Mekhanika, Abs. 12B506

REF SOURCE: Vestn. Kiyevsk. politekhn. in-ta. Ser. teploenerg., no. 1, 1964, 145-153

TOPIC TAGS: steam turbine, reaction turbine, electric power plant, turbine regenerator

ABSTRACT: It is necessary during the installation of bleeder turbines in industrial heat and electric power plants to make provision for auxiliary turbines with extraction tubes for heating the condensate and feed water for the bleeder turbines using low-temperature steam. The installation of these auxiliary turbines makes modular construction of the heat and electric power plant difficult. It is therefore more efficient to use special bleeder turbines with additional regenerative sections for expansion of a portion of the steam leaving the main section of the bleeder turbine which is then used for heating the feed water of the given unit. The additional regenerative sections may be situated on a common shaft with the main section of the bleeder turbine or may be separate. A characteristic feature in the operation of these regenera-

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ACC NR: AR6016465

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tive sections is that their transmission capacity is interrelated with the condensate heating conditions in the regenerative heaters. Data are given from studies on the effect which variable loading of the bleeder turbine, variable back pressure and various condensate temperatures have on the operation of auxiliary regenerative sections in R-100-130/10 and R-50-130/10 turbines. Results are also given from studies on the effect of initial steam parameters in these turbines on the relative power of the additional regenerative sections. Bibliography of 3 titles. A. Leyzerovich. [Translation of abstract]

SUB CODE: 13 10

MS
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Gonchar, V.N.

PHASE I BOOK EXPLOTTATION 981

Chelyabinskly Politeknicheskly institut.

Raschet na prochnost' elementov konstruksiy (Analysis of Strength of Structural Elements) Moscow, Mashgiz, 1957. 130 p. (Series: Its Sbornik statey, vyp. 11) 5,000 copies printed.

Reviewers: Grubin, A.N., Doctor of Technical Sciences, Gonchar, V.N., Kempner, M.L., Kudryavtsev, A.F., Romalis, B.L., Skornyyakov, V.B., Candidates of Technical Sciences, and Bybin, S.A., Engineer; Ed.: Gokhfel'd, D.A., Candidate of Technical Sciences; Tech. Ed.: Sarafannikova, G.A.; Executive Ed. (Ural-Siberian Branch, Mashgiz): Kravtsov, V.S.

PURPOSE: This book is intended for engineers, technicians and scientific workers.

COVERAGE: The articles in this collection were written by scientific workers of the Chelyabinsk Polytechnical Institute in connection with personnel of the Chelyabinsk Tractor Plant. The articles deal

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Analysis of Strength of Structural Elements 981

with the strength and plasticity of structural elements and machine parts. The author states that these articles are based on practical problems of great interest to Soviet industry. They are not, however, exhaustive scientific studies.

TABLE OF CONTENTS:

Preface

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Gokhfel'd, D.A., Candidate of Technical Sciences, Grimenko, N.I., Engineer, Chernyshev, V.M., Engineer. Investigation of Static Stresses in the Frame of a High-power Tractor

The authors consider the model of a frame as a statically indeterminate system. They think that this investigation may be useful for the determination of stresses in real frames in operating conditions. There are 6 Soviet references

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- . Analysis of Strength of Structural Elements 981
- Karpachev, N.F., Engineer. Investigation of a Laminated Torsion Bar 20
Laminated torsion bars are widely used in the construction of heavy tractors and in other fields of industry. The author develops a theory for their analysis and gives some data of the experimental verification of his theory. There are 3 Soviet references.
- Gokhfel'd, D.A., Candidate of Technical Sciences. Elastic-Plastic State of a Disc Due to Non-uniform Heat Distribution (Effect) 48
The author describes a particular case, of high temperature effect of the gas turbine rotor disc on the periphery of which a plastic region can be formed. The approximate method for determining stresses and deformations of the elasto-plastic rotor disc of a complex profile is presented. There are 6 Soviet references.

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Analysis of Strength of Structural Elements 981

Visyashchev, V.S., Engineer. Investigation of the Distribution of Forces and Stresses in a "Fir-tree" Type Attachment of an Aircraft Turbine Blade in the Elastic State of the Material

59

In the described method of analysis of the "fir-tree" type turbine blade attachment, the author assumes that: 1) the blade is under tensile stresses due to centrifugal forces, 2) stresses in the attachment of the root of the blade and the corresponding portions of the disc are distributed along the height in sections, and in the limits of each section the cross-sectional dimensions and the temperatures are averaged, 3) The centrifugal forces distributed in the attachment are replaced by statically equivalent concentrated forces applied at the centroids of the analysed sections, 4) no other stresses need be taken under consideration. There are 3 Soviet references.

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Visyashchev, V.S., Engineer, Strength Analysis of a 'Fir-tree'
Attachment of Aircraft Turbine Blades in Creep Conditions 80

The author states that the strength of the fir-tree type attachment of a turbine blade is basically determined by creep conditions. His analysis is based on the general flow theory of plasticity and creep in the presence of experimental relationships between the intensity of the speed, shear deformation, and the intensity of shearing stresses. There are 4 Soviet references.

Popov, N.P., Engineer. Influence of the Surface Finish on the
Fatigue Strength of Springs 103

The author gives characteristics of springs whose surfaces were treated by shot peening, galvanic zinc plating, nitriding, and varnishing, and compares them with untreated springs. There are 2 Soviet references.

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Analysis of Strength of Structural Elements 981

Vydrin, V.N., Candidate of Technical Sciences. On the Theory of Energy in Plastic Deformation in Connection With the Plasticity Equation

111

The author states that the plasticity equation, expressed in terms of the principal stresses and based on the theory of constancy of the potential energy (theory of Mises, Huber, Hencky) is not adequate for solution of problems related to plastic deformations. He finds it expedient to solve the problem of relationship between principal stresses by use of the theory of plastic strain energy, which, according to the author, was formulated by the Soviet scientist, A.F. Golovin. Illustrative example (problem) is presented. There are 6 Soviet references.

Vydrin, V.N., Candidate of Technical Sciences. Connection between Displacements and Stresses in Plastic Deformations

127

The author examines the case of the mathematical theory of plasticity where the connection between stresses and strains in plastic deformations is given in the form of the equality of corresponding coefficients. There are 3 Soviet references

AVAILABLE: Library of Congress
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GONCHAR, U.N.

Leningrad. Politekhnicheskii institut imeni M. I. Kalinina
 Metallovedeniye (Physical Metallurgy) Moscow, Makhizh, 1959. 107 p.
 (Series: Itis: Trudy, vyp. 202) 2,300 copies printed.

Sponsoring Agency: Ministerstvo vysshago obrazovaniya SSSR.
 Resp. Ed.: V. S. Saimov, Doctor of Technical Sciences, Professor.
 Ed.: G. A. Kabanov, Professor, Tech. Ed.: L. V. Shostakina
 Managing Ed. for Literature on the Design and Operation of Ma-
 chinery (Leningrad Division, Makhizh): P. I. Fetichev, Engineer.

PURPOSE: This collection of articles is intended for engineers,
 technicians, and research workers in the fields of physical
 metallurgy and the heat treatment of metals.

COVERAGE: The papers in this collection contain the results of
 experimental work dealing with the study of constitution diagrams
 of metal systems, the nature of solid solutions, aging of complex
 alloys, processes occurring during the heating and cooling of alloys,
 and the thermochemical treatment of steel.

Card 1/8 and the thermochemical treatment of steel.
 With Magnesium and Zinc

The author presents results of an investigation of the aging
 of alloys of the systems Al-Mg-Zn and Al-Mg-Zn-Cu as a function
 of their composition. It is shown that chemical bonds characteristic
 of the Al-Mg-Zn solid solution are present even during the de-
 composition of a super-saturated Al-Mg-Zn-Cu solid solution.

Shishovskii, V. P., V. A. Arxayeva, and E. A. Vikhoreva. Determination
 of a Speed Index of Hardness as a Method of Physicochemical
 Analysis 56

It is shown that the determination of hardness on the basis of
 variations in the duration of the action of a load may be useful
 in studying transformations in alloys.

Saishovskii, V. P., and E. A. Vikhoreva. Concentration Method of
 Determining Long-time Strains 65

This method consists in the repeated pressing of a cone into the
 same spot on a specimen. This results in a series of successive
 impressions. The authors establish a relationship between the
 deformations (by the diameter of the impression) and the duration
 of the action of the load.

Teobalio, J. O., and Yu. P. Balandin. Investigation of the
 Elastic Limit and Elastic Aftereffect in Steel Ribbon Springs 66

The authors give the results of an investigation, by a new
 method, of the nature of the elastic limit and elasticity of certain
 spring steels. It is shown that in determining the mechanical
 properties of these steels by ordinary methods, considerable
 errors are introduced. The authors emphasize the importance of the
 elastic limit, the latter being considered as depending on the
 duration of action of the force.

Teobalio, J. O., and Yu. P. Balandin. Effect of Workhardening
 and Low-temperature Annealing on the Elastic Limit and Elastic
 Aftereffect in Nonferrous Spring Alloys 79

The authors give the results of a comparative study of the
 mechanical properties of three spring alloys, tin-phosphorus,
 beryllium-bronze, and German silver. The elastic limit and
 elastic aftereffect, little-studied characteristics, are assumed
 to be of basic importance. It is shown that heat treatment is
 decidedly helpful in improving the alloys with respect to these
 properties.

GONCHAR, V.N.

Effect of copper on the aging of aluminum-magnesium-zinc alloys.
Trudy LPI no.202:43-55 '59. (MIRA 12:12)
(Aluminum-magnesium-zinc alloys--Hardening)

35227
S/148/62/000/001/012/015
E071/E180

18, 110

AUTHORS: Gonchar, V.N., and Ivantsov, P.F.

TITLE: Alloying of steel 35Л (35L) with boron and cerium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy,
Chernaya metallurgiya, no.1, 1962, 160-168

TEXT: On the basis of literature data it was expected that boron and rare earth elements would improve the hardenability, plasticity and toughness of steel. Since the individual influence of boron and cerium on steel 35L (0.35% C, 0.73 Mn, 0.27 Si, 0.031 S, 0.03 P, 0.12 Cr, 0.15 Ni) was previously investigated, this steel was chosen. Boron and cerium, in the form of ferroalloys, were added in the ladle after deoxidizing the steel with aluminium. The concentration of boron and of cerium was nil, 0.1, 0.15 and 0.2%. It was established that in steel 35ЛР (35LR): 1) the introduction of an optimum amount of cerium (0.1-0.15%) refines the macrostructure and removes the transcrystallisation zone almost completely; 2) 0.10% cerium increases the plasticity and impact strength of cast and

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Alloying of steel 35L with boron...

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E071/E180

annealed steel, and even more of normalised and fully heat treated steel. In the latter case 0.15% cerium is particularly effective - the impact strength is increased by a factor of 1.5-2.0, while other strength characteristics remain practically unchanged; 3) in the fully heat treated steel cerium increases the impact strength at subzero temperatures by a factor of 1.5-2.0; 4) in cast and normalised steel 0.1-0.15% cerium refines the microstructure and improves the uniformity of distribution of structural components. An increase in the cerium addition to 0.2% increases the amount of ferrite which is probably responsible for some decrease in strength; 5) cerium decreases the tendency to growth of austenite grains in boron containing steel; 6) simultaneous alloying with optimum quantities of boron and cerium improves plasticity, impact strength and hardenability; 7) Simultaneous alloying with boron and cerium should be tested on alloy structural steels. There are 6 figures and 3 tables.

ASSOCIATION: Chelyabinskiy politekhnicheskiy institut

Card 2/2 (Chelyabinsk Polytechnical Institute)

SUBMITTED: December 14, 1960

X

L 32977-66 EWT(m)/I/EWP(w)/EWP(t)/ETI IJP(c) JD

ACC NR: AP6017523

(N)

SOURCE CODE: UR/0148/66/000/001/0149/0153

111
110
B

AUTHOR: Gonchar, V. N.; Voskoboynikova, N. A.; Shcherbakova, A. F.

ORG: Chelyabinsk Polytechnic Institute (Chelyabinskiy politekhnicheskiy institut)

TITLE: The effect of intermediate structures on the properties of structural steels

SOURCE: IVUZ. Chernaya metallurgiya, no. 1, 1966, 149-153

TOPIC TAGS: alloy steel, bainite, metal heat treatment, metallographic examination, impact strength

ABSTRACT: The kinetics of austenite decomposition in two medium alloyed Cr-Ni-Mo steels and on the mechanical properties of their intermediate transformation products at room temperature and below was studied. Critical points were determined on a differential optical dilatometer for temperature changes of 190 deg/hr. Isothermal transformation diagrams were given and the austenitic stability was measured (% austenite) for different temperature regions, the maximum austenitic stability being obtained in the higher alloyed steel (B) at 450-550°C. Microstructures for isothermal transformation at different temperatures and for quenched and tempered steel were compared: at the lower part of the intermediate region the structure was needle-like, whereas at the higher part the needles were thicker. Tensile and impact properties of the above structures were tabulated. At room temperature, the lowest properties were obtained for

UDC: 669.14.018.27:620.17

Card 1/2

L. 32977-66

ACC NR: AP6017523

steel (A) transformed isothermally at 450°C. The best properties (high strength and plasticity) were obtained for the ordinary quench and temper treatment. The % of austenite transformed dropped from 100 at 350°C to 90 at 450°C for steel (A) and from 95 at 300°C to 15 at 425°C for steel (B). The effects of isothermal transformation in the intermediate region on the impact strength and on the fracture characteristics at different testing temperatures were determined. For steel (A) with 100% austenite transformed, the fracture appearance at room temperature was brittle and at lower temperatures the impact strength decreased. Steel (B) exhibited better impact strengths at the lower temperatures, especially for the quenched and tempered structure. In all cases, the intermediate isothermal structures lowered the physical properties, all the more sharply for the lower temperatures. The negative influence of the intermediate structures depended on the alloy content, the amount and characteristics of the intermediate structure and the test temperature. Orig. art. has: 4 figures, 2 tables.

SUB CODE: 11/ SUBM DATE: 19Jan63/ ORIG REF: 004

Card 2/3 *LLB*

GONCHAR, V.V.; SHAPIRO, B.S., redaktor; STARODUBTSEVA, S.N., redaktor; ATTO-
POVICH, M.K. tekhnicheskiy redaktor.

[Collection of nomographic charts for metal rolling] Atlas nomogramma
po prokatke. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi
i tsvetnoi metallurgii, 1954. 47 p. (MLRA 7:12)
(Rolling (Metal work))

SOV/137-58-9-19007

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 123 (USSR)

AUTHOR: Gonchar, V.V.

TITLE: The Regrooving of Shapes and Plain Sections at the Azovstal' Plant (Perekalibrovka fasonnykh i prostykh profiley na zavode "Azovstal'")

PERIODICAL: Tr. Nauchno-tekhnich. o-va chernoy metallurgii. Ukr. resp. pravl., 1957, Vol 2, pp 208-213

ABSTRACT: In the process of eliminating the disproportion between the capacity of the blooming mill and the reduction mills, an increase in the cross section of the starting billet for the majority of shapes (S) made by the large-bar mill and for some S of the rail and beam mill was provided for. This facilitated use of the blooming mill. The increase in the cross section of blooms for the merchant S was not accompanied by an increase in the number of passes on the reduction mill. Changes were made in the grooving in the direction of more severe drafts, but this was chiefly in the simpler pass configurations. The output capacity of the mills increased as the result of this regrooving. 1. Rolling mills--Equipment 2. Industrial S.G. equipment--Design 3. Materials--Control

Card 1/1

AUTHOR: Gonchar, V.V., Engineer SOV/133-58-8-14/30

TITLE: Determination of the Conjugated Dimensions of Rail-finishing Passes (Opredeleniye sopryazhennykh razmerov chistovykh rel'sovykh kalibrov)

PERIODICAL: Stal', 1958, Nr 8, p 727 (USSR)

ABSTRACT: In order to simplify the calculations for the design of roll passes, the profile of a rail can be divided into five geometrical figures (figure). Analytical calculation of the conjugated dimensions of rail-finishing passes, based on simple relationships obtained by solving of two triangles (from the above division) is recommended (table). There are 1 table, 1 figure and 1 Soviet reference.

ASSOCIATION: Zavod "Azovstal'" ("Azovstal'" Works)

Card 1/1 1. Rolling mills--Operation 2. Metals--Processing 3. Mathematics--Applications

SOV/130-58-10-9/18

AUTHORS: Protasov, N.F., Khlebnikov, V.P., Sikorskiy, A.I.,
Gonchar, V.V., Stefanov, V.Ye and Boldyrev, L.I.

TITLE: Improving Accessories on the Reducing Mill of a Heavy-
Section Mill (Usovershenstvovaniye armatury obzhimnogo
stana krupnosortnogo tsekha).

PERIODICAL: Metallurg, 1958, Nr.10, pp.25-29 (USSR)

ABSTRACT: It was found that when rolling low-number girders, especially Nr.20 in the reducing stand of a rail-structural mill the metal often displaced the guides, leading to stoppages. The authors give details of guide construction and attachment (Fig.1) and also of special devices provided before each pass (Fig.2) to support the beam from below. This is advantageous for rolling large girders (Nr.30-55) but unreliable for smaller (Nr.18-16) sizes. For rolling these latter when the closed passes are in the bottom roll two variants of guide arrangements have been proposed. In the first special movable vertical supports are provided for the guides, fixed on trapezoidal projections. In the

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SOV/130-58-10-9/18

Improving Accessories on the Reducing Mill of a Heavy-Section Mill.

second a trapezoidal-section bar is fixed to the housing (similar to the guide bars on the finishing line) (Fig.4) which supports one end of the specially shaped guide, the other being held in the pass with the aid of a load. The authors favour the second variant and mention its applicabilities. Its adoption has enabled the load on the finishing line to be reduced by 20-25%. The new roll-pass designs used since March 1957 have led to better roll life, higher productivity and other improvements. The new accessories are especially useful for thin-walled sections, and during the year for which they have been in use no cases of guide displacement have occurred. There are 4 figures.

ASSOCIATION: Zavod "Azovstal'" ("Azovstal'" works).

Card 2/2

SOV/130-58-12-12/21

AUTHORS: Protasov, N.F., Khlebnikov, V.P., Sikorskiy, A.I.,
Gonchar, V.V., Boldyrev, L.I. and Stefanov, V.Ye.

TITLE: Experience of the Adoption of Profiles for Mine Supports
(Opyt osvoyeniya profiley dlya shakhtnogo krepleniya)

PERIODICAL: Metallurg, 1958, Nr 12, pp 27 - 29 (USSR)

ABSTRACT: The "Azovstal'" works is one of the main suppliers of the more important sections for mine construction and operation. The authors illustrate (Fig 1) sections for props types 18A-18B and 28A-28B and show how the first two fit each other (Fig 2). These sections are rolled from 230 x 285 and 245 x 280 mm blooms in four stands arranged in two lines and the authors outline the pass design and deformations at the various stages. They deal with the production of inclined props to GOST-5157-53. The authors

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SOV/130-58-12-12/21

' Experience of the Adoption of Profiles for Mine Supports

state that the pass designs for pit props developed at the works have improved quality as well as increasing production.

There are 4 figures

ASSOCIATION: "Azovstal'" works

Card 2/2

GONCHAR, V. Yu., ANTUFYEV, Yu. P., KOPANETS, E. G., L'VCOV, A. N. TZTKO, S. T.,
TUTAKIN, P. M., AND VALTER, A. K.

"Investigation of gamma-Radiation from $Si^{30} (p, \gamma) P^{31}$ Reaction,"

paper submitted at the A-U Conf. on Nuclear Reactions in Medium and Low Energy
Physics, Moscow, 19-27 Nov 57.

Physical Tech. Inst, Acad. Sci. UkrSSR

GONCHAR, V. Yu., LVOV, A.M., TUFAKIN, P.M., TSYTKO, S.P., VAL'TER, A.K.

(Phys. Teck., Inst. Acad. Sci. Ukr SSR)

"Polarization of γ Radiation from the $Si^{30} (p, \gamma)P^{31}$ Reaction,"

paper submitted at the All-Union Conf. on Nuclear Reactions in Medium and Low Energy Physics, Moscow, 19-27 Nov 57.

GONCHAR, ~~V.Y.~~ V. Y.

AUTHORS Tutakin P.M., Tsytko S.P., Lvov A.N., Valter A.K., 89-10-16/36
 Gonchar ~~V.Y.~~ *

TITLE The Polarization of γ -Radiation Occuring in the Reaction $Si^{30}(p, \gamma)P^{31}$.
 (Polyarizatsiya γ -izlucheniya, voznikayushchego v reaktsii
 $Si^{30}(p, \gamma)P^{31}$. - Russian)

PERIODICAL Atomnaya Energiya, 1957, Vol 3, Nr 10, pp 336-338 (U.S.S.R.)

ABSTRACT The γ -radiation observed with the decay of the excited state with 8,2 MeV energy ($J=3/2$) in P^{31} into the ground state ($J=1/2+$) is distinctly polarized.
 From the experimentally found angular distribution of the photo-protons there follows $(R-1) = -0,51$ or $R=0,49$.
 The γ -transition 8,2 MeV belongs to the M_1 -type and therefore the level must have 8,2 MeV, spin and parity $3/2+$.
 The angular distribution of the 8,2 MeV γ -transition has the form $\omega(\theta) \sim 1 - a_2 \cos^2 \theta$ with $a_2 = -0,34 \pm 0,12$, from which it follows that the 8,2 MeV must be a mixture of $M_1 + E_2$.
 There are 3 figures and 1 Slavic reference.

SUBMITTED June 20, 1957
 AVAILABLE Library of Congress.
 Card 1/1

* Checked with - drp

GONCHAR, V. YU, INOPIN, E. V., and TSYTKO, S. P. (Moscow, USSR)

"Les Noyaux Legers et le Modele Unifie."

report presented at the Intl. Congress for Nuclear Interactions (Low Energy)
and Nuclear Structure (Intl. Union Pure and Applied Physics.) Paris, 7-12 July 1958.

GONCHAR V. Yu.

89-3-12/30

AUTHORS: Afanasiyev, H. G. , Gonchar, V. Yu.---

TITLE: The Measurement of γ -Ray and Neutron Spectra by Means of CsJ(Tl), NaJ(Tl) and Stilbene Crystals (Izmereniye spektrov γ -luchey i neytronov s pomoshch'yu kristallov CsJ(Tl), NaJ(Tl) i stil'bena)

PERIODICAL: Atomnaya Energiya. 1958, Vol. 4, Nr 3, pp. 289 - 292 (USSR)

ABSTRACT: A spectrometer is described which in principle consists of the following parts: crystal + multiplier, linear pulse amplifier, stabilized power supply unit for feeding the multiplier, and a 55-channel analyzer. The analyzer is connected with an "ultrasonic" memory. The crystals (3 x 2 cm) were partly produced in the Crystallographic Institute of the AN USSR [CsJ(Tl)] , and partly in the Khar'kov Chemical Plant. The resolving power amounted to:

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Cs¹³⁷

	CsJ(Tl)	NaJ(Tl)
	11,5 %	9 %

89-3-12/30

The Measurement of γ -Ray and Neutron Spectra by Means of CsJ(Tl) NaJ(Tl) and Stilbene Crystals

	CsJ(Tl)	NaJ(Tl)
Co^{60}	9 %	5.6 %

The use of the spectrometer for measuring neutrons or charged particles is shown schematically. In this before the scintillation head the target, a paraffin cone, an inversely directed lead cone as well as the scattering material in the shape of a ring must be mounted. There are 7 figures, 1 table, and 2 references, 0 of which are Slavic.

SUBMITTED: August 5, 1957

AVAILABLE: Library of Congress

1. γ -Ray-Measurement
2. Neutron spectra-Measurement
3. Spectrometer-Characteristics
4. Spectrometer-Applications

Card 2/2

GONCHAR, V Yu.

AUTHOR: Varshalovich, D.

SOV/53-65-4-7/13

TITLE: The VIII Annual Congress of Nuclear Spectroscopy (VIII yezhegodnoye soveshchaniye po yadernoy spektroskopii). I

PERIODICAL: Uspekhi fizicheskikh nauk, 1958, Vol 65, Nr 4, pp 721 - 722 (USSR)

ABSTRACT: The 8th Congress of Nuclear Spectroscopy took place in Leningrad from January 27 to February 3, 1958. It was attended by 300 scientists from the USSR, further by scientists from China, France, Poland, Czechoslovakia, Hungary, Eastern Germany, Yugoslavia, and the Mongol Democratic Republic. 4 main lectures and about 90 reports were heard. The main lectures dealt with problems concerning nuclear models, the α - and β -decay, γ -radiation, internal conversion, and nuclear isomerism. B.S.Dzhelepov, Corresponding Member, Academy of Sciences, USSR, opened the conference. Lectures were held by: V.Yu. Gonchar, Ye. V. Inopin, S.P.Tsytko (FTI, AS UkrSSR) on light nuclei and generalized nuclei models; L.K. Peker (BAN SSSR-Library AS USSR); Yu.M. Shirokov (MGU-Moscow State University), L.A. Sliv (LFTI-Leningrad Physical-Technical Institute) et al. on levels in Mg^{24} , Mg^{25} and Al^{25} ; D.G.

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The VIII. Annual Congress of Nuclear Spectroscopy. I

SOV/53-65-4-7/13

Alkhozov, A.P.Grinberg, G.M.Gusinskiy, K.I.Yerokhina and I.Kh.Lemberg (LFTI) on having found no rotational levels at $E < 1$ MeV in Cr, In, and Mn nuclei. The same research workers also reported on the discovery of vibrational γ -levels in W^{182} , W^{184} , W^{186} - nuclei by means of the method of the Coulomb (Kulon) excitation at $E_{exc} \sim 1$ MeV. L.K.Peker

(BAN SSSR) gave a survey report: "Concerning Some Particulars in Vibrational Levels of Deformed Nuclei". Lectures were held also by: D.F.Zaretskiy (AN SSSR - AS USSR) on radiation transitions in deformed nuclei with the spin = 1/2; V.S. Shpinel' 2 NIFI MGU (2nd Scientific Research Institute of Physics, Moscow State University) on the level displacement and the probability of corresponding β - and γ - transitions in odd nuclei; D.F.Zaretskiy (AN SSSR - AS USSR) on the influence of the spin-orbital coupling upon the magnetic moments of the nuclei, A.I.Baz' (AN SSSR - AS USSR) on the existence of light nuclei with high neutron or proton excess; V.A.Kravtsov (LPI-Leningrad Polytechnic Institute) on the formation of nucleon pairs in nuclei; L.L. Gol'din, A. D. Piliye, G.N.Novikova, K.A.Ter-Martirosyan (TTL AN SSSR)

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The VIII. Annual Congress of Nuclear Spectroscopy. I

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on alpha decay on rotational levels of odd nuclei; V.G. Nosov (AN SSSR - AS USSR) on alpha decay of nonspherical nuclei (survey); A.I. Alikhanov, G.P. Yeliseyev, V.A. Lyubimov, V.V. Ershler (TTL AN SSSR) on polarisation measurements at electrons emitted in the β -decay of Tm^{170} , Lu^{177} , Ag^{198} , Sm^{153} , Re^{186} ($\Delta I = 0, 1, \Delta \pi = -1$) as well as in that of Sr^{90} and Y^{90} ($\Delta I = 2, \Delta \pi = -1$); V.P. Rudakov (AN SSSR - AS USSR) on measurements of the (β - γ) angular correlations in Ba^{139} -decay; N.A. Burgov and Yu.V. Terekhov (TTL AN SSSR) on investigations of the electron-neutron correlations and the resonance scattering of γ -radiation; B.K. Kerimov and I.M. Nadzhafov (MGU-Moscow State University) on the bremsstrahlung of longitudinally polarized electrons; A.I. Mukhtarov and Yu.S. Perov (MGU) on the effective cross section of the scattering of polarized electrons and positrons at polarized electrons; Ya.E. Chudars and I.Ya. Taurus (Riga) on the determination of the intensity of the components of the complex β -spectrum according to the Fermi diagram; I.M. Bund, L.H. Zyryanova, and Yu.P. Suslov, LGU (Leningrad State University) on the computation of the probability of the permitted and of the

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The VIII. Annual Congress of Nuclear Spectroscopy. I

SOV/53-65-4-7/13

forbidden capture of electrons by a nucleus.

Card 4/4

GONCHAR, V.Yu., Cand Phys Math Sci -- (diss) "Study of the underlying levels of Na²¹ and Cl³³." Khar'kov, 1959, 11 pp
120 copies. Mimeogra hed. Bibliography pp 10-11 (14 titles)
(KL, 35-59, 111)

- 5 -

21(7)

SOV/48-23-2-13/20

AUTHORS: Val'ter, A. K., Gonchar, V. Yu., L'vov, A. N., Tsytko, S. P.TITLE: Investigation of γ Rays Caused by Proton Bombardment of an Ne^{20} -containing Target (Issledovaniye γ -luchey, vznikayushchikh pri bombardirovke protonami misheni, sodержashchey Ne^{20})

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 2, pp 228-234 (USSR)

ABSTRACT: In a short introduction a decay scheme of the lower levels of the nuclei Ne^{21} and Na^{21} is given according to data contained in references 1-3 and 4-6, 7. In the present paper the characteristics of the level 3.57 Mev in the Na^{21} nucleus were investigated in detail in the reaction $\text{Ne}^{20}(p,\gamma)\text{Na}^{21}$. The authors measured the radiation yield in dependence on the energy of the bombarding particles (Fig 1). 10 resonances were found. The energies and experimental width of these resonances are given in table 1. Furthermore, the authors studied the β activity of the same target with energies corresponding to the resonance, as well as the γ spectrum of all 10 resonance energies. All measurement results are listed in table 1. It follows from the evaluation of all data obtained that the

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SOV/48-23-2-13/20

Investigation of γ Rays Caused by Proton Bombardment of an
Ne²⁰-containing Target

resonance energy with the proton energy 1175 kev corresponds to the reaction $\text{Ne}^{20}(p,\gamma)\text{Na}^{21}$. The energy of the corresponding γ -radiation amounts to 3.60 Mev. According to the calculation of mass defect with the proton energy 1175 kev the same value 3.58 Mev is determined. Accurate investigations have shown that this 3.60 Mev γ line corresponds to the transition into the ground state. The angular distribution of dipole and quadrupole γ transitions was calculated and compared to values obtained by experiments. In addition, spin and parity of the 3.58 Mev level of Na^{21} were determined to be $5/2^+$. There occurs a dipole transition $5/2^+ \rightarrow 3/2^+$ (Table 5). The authors thank M. I. Guseva for production of the Ne^{20} target and Ye. V. Inopin for discussion of the results obtained. There are 4 figures, 5 tables, and 17 references, 4 of which are Soviet.

Card 2/3

SOV/48-23-2-13/20
Investigation of γ Rays Caused by Proton Bombardment of an
Ne²⁰-containing Target

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk USSR
(Physicotechnical Institute of the Academy of Sciences, UkrSSR)

Card 3/3

24(5),21(7)
AUTHORS:

SOV/48-23-7-11/31

Val'ter, A. K., Gonchar, V. Yu., L'vov, A. N., Tsytko, S. P.

TITLE:

The Investigation of Low-lying Levels of the Isotope Cl^{33} by
Means of the Reaction $S^{32}(p, \gamma) Cl^{33}$
(Issledovaniye nizkolezhashchikh urovney Cl^{33} pri pomoshchi
reaktsii $S^{32}(p, \gamma) Cl^{33}$)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959,
Vol 23, Nr 7, pp 835-838 (USSR)

ABSTRACT:

The introduction indicates some papers on the lower levels of
the Cl^{33} -nuclei, pointing out the paper by Meyerhof and
Lindstrom (Ref 3) in which the multiple β -decay on the
2.9 Mev-level is attributed to a positive parity. To check this
assumption, the authors carried out the experiments described
in this paper. The electrostatic precision generator of
4 Mev of the FTI AS UkrSSR was used for this purpose. In the
measurement of the γ -yield, resonances were found at 583 and
590 kev, as well as a half-life of 2.3 sec, which agrees with
the known data. Further, the scheme of γ -transitions shown in
figure 2 was established by the authors by means of the

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The Investigation of Low-lying Levels of the
Isotope Cl^{33} by Means of the Reaction $\text{S}^{32}(\text{p}, \gamma) \text{Cl}^{33}$

SOV/48-23-7-11/31

γ -spectrum. The angular distribution of the γ -rays in the reaction $\text{S}^{32}(\text{p}, \gamma) \text{Cl}^{33}$ was measured, and the results are shown in table 1 and figures 3 and 4. From these results, conclusions concerning the spin and the character of transitions are made, and it is shown that the spin and the parity of the 2.850 Mev-level is equal to $5/2^+$. With the level scheme shown in figure 2, conclusions are made concerning the spin, parity and energy of the next level. Finally, the authors thank M. I. Gusev for the preparation of the S^{32} -target, and Ye. V. Inopin for his interest in the work, Yu. P. Antuf'yev and Ye. G. Kopanets for the execution of the measurements, as well as A. A. Tsygikalo and Yu. A. Kharchenko who secured the work at the generator. There are 4 figures, 1 table, and 9 references, 4 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskii institut Akademii nauk USSR (Physico-technical Institute of the Academy of Sciences, UkrSSR)

Card 2/2

0332

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B019/B056

24.6100

AUTHORS:

Antuf'ev, Yu. P., Val'ter, A. K., Gonchar, V. Yu.,
Kopanets, Ye. G., L'vov, A. N., and Tsytko, S. P.

TITLE:

An Investigation of the Levels of the Cl^{35} Nucleus
₇₉

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 7, pp. 877-883

TEXT: This paper was read at the 10th All-Union Conference on Nuclear Spectroscopy, which took place from January 19 to January 27, 1960 at Moscow. The author studied the levels and the quantum characteristics of the Cl^{35} -nucleus by means of the reaction $S^{34}(p,\gamma)Cl^{35}$. The excitation function, the spectrum, and the angular distribution of the γ -rays were measured. The investigations of the S^{34} target were carried out by means of a monochromatic proton beam accelerated to 4 Mev in the electrostatic generator of the FTI AS UkrSSR. The γ -rays were recorded by means of a CsI(Tl) crystal. When studying the excitation function, γ -quanta with $E_\gamma > 1.5$ Mev were recorded. In the Table, the proton energies are given,
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An Investigation of the Levels of the Cl^{35}
Nucleus

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B019/B056

at which γ -resonance was observed; also given are the relative intensities of the resonance peaks and the energies of the excited Cl^{35} levels. For the purpose of studying the spectra and the angular distributions of the γ -rays, the authors used a monocrystal scintillation spectrometer. On the basis of the data obtained, the authors suggest the Cl^{35} transition scheme shown in Fig. 5. Resonances in the case of four proton energies (E_p) are discussed in detail. The resonance at $E_p = 848$ kev corresponds to the 7.196 Mev Cl^{35} level, for which a γ -transition to the 1.22 Mev level occurs with a probability of 95%, and a γ -transition to the ground state of Cl^{35} occurs with a probability of not more than 5%. For the 7.196 Mev level, $1/2^+$ is presumed. The resonance at $E_p = 890$ kev corresponds to the 7.236 Mev of the level of the Cl^{35} . The γ -spectrum indicates a transition from this level to the ground state. Also transitions to the 1.22-Mev level are possible. For the 7.236-Mev level, $5/2^+$ is assumed. Resonance at $E_p = 929$ kev corresponds to the 7.274-Mev level, from which transitions to the ground state (70%) and to the 1.22-Mev level (30%) occur. For this level, a spin of $1/2$ is assumed, but here a more exact investigation is necessary. The authors carried out preparatory measurements of the spectra

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An Investigation of the Levels of the $C1^{35}$
Nucleus

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B019/B056

and of angular asymmetry of the γ -rays for the resonances at $E_p = 881$,
1024, and 1214 kev. By a further investigation of the angular distri-
butions and correlation of the γ -cascade transitions, the problems arising
in this connection are expected to be cleared. The authors thank M. I.
Guseva for producing the S^{24} target, and A. A. Tsygikalo and Yu. A.
Kharchenko for work carried out on the accelerator. There are 5 figures,
1 table, and 8 references: 4 Soviet and 4 US.

ASSOCIATION: Khar'kovskiy fiziko-tehnicheskii institut Akademii nauk
USSR (Khar'kov Institute of Physics and Technology of the
Academy of Sciences, UkrSSR)

Card 3/5

85592

S/048/60/024/007/026/032/XX
B019/B056

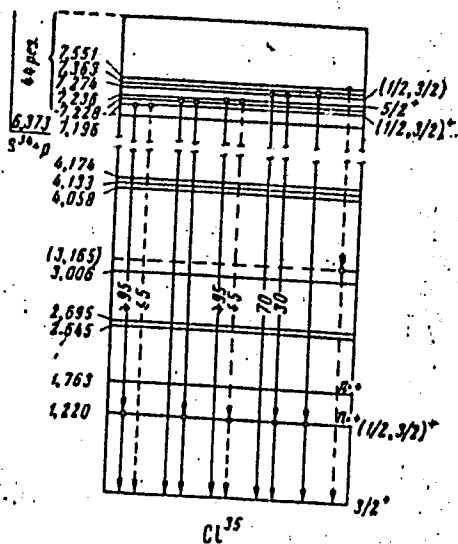
Резонансные энергии протонов и характеристики уровней Cl^{35} , проявляющихся в реакции $S^{34}(p, \gamma) Cl^{35}$

№ п/п	Эр, keV	Энергия уровня, MeV	Относительная интенсивность резонансных пиков	№ п/п	Эр, keV	Энергия уровня, MeV	Относительная интенсивность резонансных пиков
1	715	7,067	0,6	23	1450	7,780	1,4
2	758	7,107	1,0	24	1455	7,785	0,5
3	838	7,180	0,7	25	1471	7,801	2
4	848	7,198	1,8	26	1510	7,836	5,5
5	881	7,228	1,4	27	1547	7,875	0,6
6	889	7,236	2,4	28	1559	7,886	2,1
7	928	7,274	3	29	1578	7,905	1,7
8	1020	7,363	4,5	30	1605	7,931	—
9	1057	7,399	0,9	31	1625	7,950	0,7
10	1112	7,452	0,3	32	1650	7,975	1
11	1158	7,497	0,5	33	1665	7,989	1,3
12	1166	7,505	1,3	34	1681	8,005	1,3
13	1184	7,522	0,6	35	1684	8,008	3,0
14	1214	7,551	4,3	36	1721	8,044	3,5
15	1227	7,564	1,4	37	1751	8,073	2,0
16	1267	7,60	4,0	38	1780	8,081	2,2
17	1286	7,621	1,8	39	1778	8,099	2,5
18	1328	7,662	0,8	40	1791	8,112	4,4
19	1341	7,675	1,4	41	1832	8,151	1,5
20	1355	7,688	3,1	42	1842	8,161	2,0
21	1378	7,711	3,4	43	1896	8,214	8,5
22	1418	7,749	1,5	44	1904	8,221	5,5

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B019/B056



Card 5/5

Рис. 5. Схема переходов в Cl³⁵

S/048/60/024/007/008/011
B019/B060

AUTHORS: Val'ter, A. K., Antuf'iyev, Yu. P., Gonchar, V. Yu.,
L'vov, A. N., Kopanets, Ye. G., Tsytko, S. P.

TITLE: A Study of the K^{41} Levels With the Aid of the $Ar^{40}(p,\gamma)K^{41}$
Reaction /9

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,
Vol. 24, No. 7, pp. 891-894

TEXT: This is the reproduction of a lecture delivered at the 10th All-
Union Conference on Nuclear Spectroscopy held in Moscow from January 19
to 27, 1960. The investigations described were carried out by using an
electrostatic precision generator serving for the proton acceleration. The
thin Ar^{40} target was prepared in an electromagnetic separator. The excita-
tion function of the reaction was measured by a scintillation counter
provided with a CsI(Tl) crystal, a proton current integrator serving for
measuring the proton beam hitting the target. Fig. 1 shows the excitation
function of the reaction under investigation in the proton energy range

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A Study of the K^{41} Levels With the Aid of the $Ar^{40}(p,\gamma)K^{41}$ Reaction

S/048/60/024/007/008/011
B019/B060

of 1085 - 1130 kev. Resonances were identified at 1092, 1107.5, 1114.5, and 1125 kev proton energies. The most intensive resonances occurred at 1092 kev and 1107.5 kev and their gamma spectrum was investigated. Fig. 2 is a graph depicting the soft and the hard part of the gamma spectrum of resonance at 1107.5 kev. These spectra are thoroughly discussed and the authors suggest a decay scheme of the excited K^{41} levels (Fig. 3), which also indicates the spins for some levels. The authors thank M. I. Guseva for having prepared the targets. There are 3 figures and 12 references: 6 Soviet, 5 US, and 1 Canadian.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk USSR
(Institute of Physics and Technology of the Academy of
Sciences UkrSSR)



Card 2/2

S/048/61/025/002/010/016
B117/B212

AUTHORS: Antuf'yev, Yu. P., Gonchar, V. Yu., Kopanets, Ye. G.,
L'vov, A. N., and Tsytko, S. P.

TITLE: A double-crystal spectrometer and its application in studying
($\text{p}\gamma$) reactions

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,
no. 2. 1961, 261-264

TEXT: The present paper was read at the 11th Annual Conference on Nuclear Spectroscopy (Riga, January 25 to February 2, 1961). The authors describe a double-crystal spectrometer with a universal hookup. This makes it possible to use the unit as a coincidence spectrometer and summation spectrometer. The hookup was designed in the fiziko-tehnicheskii institut AN USSR (Institute of Physics and Technology of AS UkrSSR) and was used for one year to investigate a number of ($\text{p}\gamma$) reactions. Fig. 1 shows the circuit diagram of the unit. Two NaI(Tl) crystals, having a diameter of 70 mm, were used as counters; one of them as 60 mm high, and its energy resolution was 11% for 661-kev gamma rays, the other was 40 mm high, but had an energy

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S/O48/61/025/002/010/016
B117/B212

A double-crystal ...

resolution of 14% for gamma rays with the same energy. Besides, 40 mm-high NaI(Tl) crystals with a diameter of 40 mm and a resolution of 9% have been used. The crystals were attached to the photomultiplier of the type ФЭУ-1Б (FEU-1B). The latter was designed by Khiebnikov. The crystals themselves are mounted on a trantable and thus may be adjusted at any angle with respect to each other and the proton beam after modulation the pulses of the ninth dynode of the photomultiplier had a duration of 3 sec and flat peaks. They are amplified by linear amplifiers which have a maximum amplification factor of 100. This amplification may be varied by means of a stepped attenuator. The pulses of the fast-coincidence circuit are emitted from the plates of the photomultiplier. They are modulated by a short circuited delay line (5 мПК-50 (PK-50) cable). Thus, per coincidence circuit a pulse duration of $5 \cdot 10^{-8}$ sec is obtained. A tube of the type 6A3П (6A3P) has been used for the coincidence circuit. The discharge of the latter starts the multivibrator which generates the driving pulse that is transmitted to the pulse-height analyzer of the type AM-100-1 (AI-100-1). Such a circuit has been described in Ref. 3. The output of the second linear amplifier is fed to the input of the pulse-height analyzer via the limiter and an additional amplifier with an amplification factor of 5. The ana-

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A double-crystal ...

S/048/61/025/002/010/016
B117/B212

lyzer is opened in the case of synchronized pulses of both photomultipliers. After leaving the linear amplifier the pulses have a specific height. A pulse can be transmitted from the photomultiplier via this amplifier which controls the scanning of the electron-beam tube. In this case, a coincidence spectrum is obtained from the other photomultiplier in which part of the total gamma-ray spectrum is separated. It is also possible to transmit a pulse which is equal to the sum of the pulses in both photomultipliers. In this case, a gamma spectrum is obtained in which the sum of the radiation energy attains the given value. In order to illustrate the operation of a spectrometer, test results for a constant Co^{60} source and for a nuclear reaction of $\text{Al}^{27}(\text{p}\gamma)\text{Si}^{28}$ are discussed. Within $\pm 15\%$, the experimental data for the first case agree with the calculated values. For the second case, a much more accurate spectrum has been obtained than with a single-crystal spectrometer. The circuit diagram of the spectrometer may also be used for a Compton spectrometer, and the pulse-height analyzer is also opened by a pulse of a Compton gamma quantum scattered through a certain angle. In addition, it may also be used as spectrometer for total absorption, if the circuit is closed at the presence of a scattered quantum. Apart from the feeding tubes, the circuit consists of 28 more tubes. There are 3 figures
Card 3/4

S/048/61/025/002/011/016
B117/B212

AUTHORS: Antuf'yev, Yu. P., Val'ter, A. K., Gonchar, V. Yu.,
Kopanets, Ye. G., L'vov, A. N., and Tsytko, S. P.

TITLE: Radiative proton capture by the S^{34} isotope

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, v. 25,
no. 2, 1961, 265-269

TEXT: The present paper was read at the 11th Annual Conference on Nuclear Spectroscopy (Riga, January 25 to February 2, 1961). The authors have investigated the radiative proton capture by S^{34} at a 1214-kev resonance energy. The gamma spectra were analyzed by means of a single-crystal spectrometer, a coincidence spectrometer, and a summation spectrometer. Based on the values obtained, the authors state that the transition of the 7.5-Mev resonance level proceeds only cascade-like over an intermediate level. The energies of the gamma rays in the cascade are 3.17 and 4.38 Mev. A direct transition to the ground state may have a relative intensity of less than 0.5%. The angular distribution of gamma rays was measured for rays with 4.38 Mev and 3.17 Mev at an angular interval of 0-150 degrees on both sides

Card 1/3

Radiative proton capture ...

S/048/61/025/002/011/016
B117/B212

of the proton beam. Test data and calculated data were intercompared. They were in best agreement when the spins of the resonance- and intermediate levels were equal to $7/2$. The value of the gamma-gamma correlation, measured with the summation spectrometer, corresponds (within the limit of error) to the calculated value, which fact confirms a spin of $7/2$. An analysis of the relative transition probability from the resonance level to the ground state and the intermediate state with a spin of $3/2^+$ and $7/2^+$, respectively, leads to the conclusion that the parity of the resonance and intermediate levels must be negative, and that the transition from the resonance level to the ground state must be $-M2$. The presence of one more level with the spin $7/2^-$ near 7.55 Mev, which corresponds to a resonance level, cannot be explained by single-body excitation on a shell- or generalized model. It may be assumed therefore that this level corresponds to a two-body excitation. A comparison of the values obtained experimentally for the width of the resonance level with those calculated according to a single-body model confirmed this assumption. The authors determined the absolute yield of gamma rays from a thick S34 target and found it to be $2.56 \cdot 10^{-9} \pm 15\%$ per each proton decay. The authors thank M. I. Guseva for preparing the isotopic targets, A. A. Tsygikalo, Yu. A. Kharchenko, and the personnel of the

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S/048/61/025/002/011/016
B117/B212

Radiative proton capture ...

electrostatic generator for the smooth operation of the latter. There are
5 figures and 5 references: 4 Soviet-bloc.

ASSOCIATION: Fiziko-tehnicheskiy institut Akademii nauk USSR (Institute of
Physics and Technology) of the Academy of Sciences UkrSSR

Card 3/3

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S/048/62/026/008/020/028
B104/B102

AUTHORS: Val'ter, A. K., Gonchar, V. Yu., Zalyubovskiy, I. I.,
Latyshev, G. D., and Chursin, G. P.

TITLE: Study of the (np) and (n,np) reactions on heavy nickel
isotopes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 26, no. 8, 1962, 1079-1084

TEXT: The object of this study was to find possibilities for further investigations of spectra and angular distributions of the products of (np) and (n,np) reactions on nickel, and to check the rules governing the reaction cross sections as found by V. N. Levkovskiy (ZhETF, 31, 360, 1956; 33, 1520, 1957). A tritium target (T being adsorbed to zirconium) was bombarded by 100-kev deuterons and sufficiently fast neutrons were produced in the $T(d,n)He^3$ reaction. A recoil proton telescope was used as neutron monitor and the β -activity induced was measured with a scintillation counter. The half-lives were determined by a multi-channel analyzer. The reaction cross sections obtained (Table) agree with pub-

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S/048/62/026/008/020/028
B104/B102

Study of the (np) and (n,np) ...

lished data within the limits of error. The rule found by Levkovskiy for the (np) reaction cross sections of various isotopes of an element applies very well to Ni. There are 5 figures and 1 table. f.

ASSOCIATION: Khar'kovskiy gos. universitet im. A. M. Gor'kogo (Khar'kov State University imeni A. M. Gor'kiy). Institut yadernoy fiziki Akademii nauk KazSSR (Institute of Nuclear Physics of the Academy of Sciences KazSSR)

Table. Cross sections. Legend: (1) reaction, (2) half-life, (3) Q, Mev, (4) σ , millibarn.

Ni ⁶⁴ (np) Co ⁶¹	(1) 104±2	(2) -0,65	(3) 86±3	(4)
Ni ⁶⁷ (np) Co ⁶²	(1) 13,9±0,2	(2) -3,14	(3) 22±1	(4)
Ni ⁶⁸ (np) Co ^{62*}	(1) 1,5±0,1	(2) -	(3) 34±2	(4)
Ni ⁶⁸ (np) Co ⁶⁴	(1) 0,3±0,9	(2) -5,08	(3) 5±1	(4)
Ni ⁶⁴ (np) Co ^{64*}	(1) 2±0,2	(2) -	(3) 2±1	(4)
Ni ⁶² (n, np) Co ⁶¹	(1) 104±2	(2) -9,70	(3) 4±1,5	(4)
Ni ⁶⁴ (n, np) Co ⁶³	(1) 122±5	(2) -10,86	(3) 6±1,5	(4)

Card 2/2

S/056/63/044/002/012/065
B102/B186

AUTHORS: Chursin, G. P., Gonchar, V. Yu., Zalyubovskiy, I. I.,
Klyucharev, A. P.

TITLE: The (n,p) reaction cross-sections for tin isotopes at
neutron energies of 14.5 Mev

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 2, 1963, 472-474

TEXT: The activation method was used for measuring the (n,p) reaction cross-sections in metallic thin-foil targets, enriched with the following isotopes: Sn¹¹² 66.2%, Sn¹¹⁶ 92.8%, Sn¹¹⁸ 28.4%, Sn¹¹⁹ 74.0% and Sn¹²⁰ 99.1%. The cross-sections of the reactions Al²⁷(n,p)Mg²⁷, Ag¹⁰⁷(n,2n)Ag¹⁰⁶ and Ag¹⁰⁹(n,2n)Ag¹⁰⁸ were determined in test measurements. A comparison of the experimental cross-sections with those calculated by D. G. Gardner (Nucl. Phys., 29, 373, 1962) and V. N. Levkovskiy (ZhETF, 33, 1520, 1957) shows that the semi-empirical law of the decrease of $\sigma(n,p)$ with increasing

Card 1/3

S/056/63/044/002/012/065
B102/B186

The (n,p) reaction cross-sections ...

mass number obtained by Gardner is not consistent with the experiment. It is suggested that the nuclear shell effects and the presence of strongly competing reaction channels on transition from isotope to isotope be taken into account.

	Exper. $\sigma(n,p)$, mb	Levk.	Card.
$\text{Sn}^{112}(n,p)\text{In}^{112}$ 48.4 min	$10,0^{+1,2}_{-2,6}$	30,4	1792
$\text{Sn}^{116}(n,p)\text{In}^{116}$ 5.4 "	$5,4 \pm 1,5$	11,2	112
$\text{Sn}^{116}(n,p)\text{In}^{116}$ 4.5 "	$11,7 \pm 2,5$	6,47	28
$\text{Sn}^{118}(n,p)\text{In}^{118m}$ 47.5 " [4.0 min]	$11,1 \pm 2,5$	4,9	14
$\text{Sn}^{118}(n,p)\text{In}^{118g} + \text{Sn}^{118}(n,np)\text{In}^{112}$	$10,6 \pm 2,3$	—	—
$\text{Sn}^{120}(n,p)\text{In}^{120}$ 51 sec	$4,6 \pm 1,2$	3,8*	7

There is 1 table.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University); Institut yadernoy fiziki Akademii nauk Kazakhskoy SSR (Institute of Nuclear Physics of the Academy of Sciences Kazakhskaya SSR)

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The (n,p) reaction cross-sections ...

S/056/63/044/002/012/065
B102/B186

SUBMITTED: August 27, 1962

Card 3/3

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Surface-barrier semiconductor counters with protective electrodes.
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GONCHAR, Ye.G.

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GONCHAR, Ye. ^{G.}

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(Conveying machinery)
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GONCHAR, Ye.

In the Committee on Inventions and Discoveries of the Council
of Ministers of the U.S.S.R. Kosh.-obuv. prom. 2 no. 11:8 N '60.
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(Shoe manufacture--Technological innovations)

GONCHAR, Ye.

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(Shoe manufacture--Technological innovations)

GONCHAR, Ye.

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