

PROKOF'YEVA-BEL'GOVSKAYA, A.A.; SHAMINA, Z.B.

Microscopic structure of actinomycetic colonies. *Actinomyces griseus*.  
Mikrobiologija 30 no.5:863-866 S-O '61. (MIRA 14:12)

1. Institut biofiziki AN SSSR.  
(ACTINOMYCES GRISEUS)

PROKOF'YEVA-BEL'GOVSKAYA, A.A.

Functions of the telomeric part of chromosomes in embryonic mitoses.  
Dokl.AN SSSR 138 no.3:688-691 My '61. (MIRA 14:5)

1. Institut biologicheskoy fiziki AN SSSR. Predstavлено академиком  
I.I.Shmal'gauzenom.  
(EMBRYOLOGY --FISHES) (CHROMOSOMES)  
(X RAYS--PHYSIOLOGICAL EFFECT)

PROKOF'YEVA-BEL'GOVSKAYA, A. (Moskva)

Organization and functioning of a chromosome. Vest.AMN S.S.S.R.  
17 no.12:60-62 '62. (MIRA 16:4)  
(CHROMOSOMES)

27.12.20

42694

S/747/62/000/000/015/025

D296/D307

AUTHORS: Romashov, D. D., Belyayeva, V. N., Golovinskaya, K. A.  
and Prokof'yeva-Bel'govskaya, A. A.

TITLE: Radiation injuries in fish

SOURCE: Radiatsionnaya genetika; sbornik rabot. Otd. biol. nauk  
AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 247-266

TEXT: The problem is of economic interest in connection with radioactive contamination of natural waters. In young carp stages of radiation sickness similar to those known in mammals can be observed. As a whole, however, fish can tolerate much higher doses of radiation and the minimum lethal dose may be >2000 r. Doses of 500 and particularly of 600 or 1,000 r delay the development of the sex glands without impairing the viability of young fish. Up to doses of 2,000 - 6,000 r, the degree of injury is proportional to the dose, but at much higher doses the nucleus of the spermatozoon becomes inactive and the injuries are less marked ("Hertwig effect"). Very high doses (100,000 r and more) lead to the develop-

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S/747/62/000/000/015/025

D296/D307

Radiation injuries in fish

ment of numerous degenerated haploid individuals possessing only the maternal set of chromosomes. In addition, however, a few normally growing individuals can be found; these are "di,ploid gynogenetic" individuals, i. e. owing to a further division they have two sets of chromosomes which are both of maternal origin. The authors devised a technique of increasing the proportion of these di,ploid gynogenetic individuals up to 15 - 60% of the spawn by a method consisting of exposure to "cold shock". Here the fertilized spawn is kept 3 hours at a temperature between 1 and 3°C, beginning precisely 10 minutes after fertilization. The damage caused in the chromosomes by radiation can be followed up through a number of cell divisions in the course of embryogenesis, to the larval stage or until the age of 25 days. In young fish embryos the dicentrical chromosomes and chromatids are unstable and serve as a source of intracellular fragments. The cycle of chromosome- and chromatid-bridges becomes relatively stable only in the later gastrula stage. There are 4 figures and 3 tables.

Card 2/3

Radiation injuries in fish

S/747/62/000/000/015/025  
D296/D307

ASSOCIATION: Institut biologicheskoy fiziki AN SSSR (Institute of Biological Physics, AS USSR) and Institut prudovogo rybnogo khozyaystva, RSFSR, Moskva (Institute of Freshwater Fisheries, RSFSR, Moscow)

X

Card 5/3

PROKOFYEV - BELGOVSKAYA, D.F.

(0)  
Effect of Ionizing Radiation on the Nucleus in Cultures of Embryonic Human Cells

A. A. Prokofyeva-Belgovskaya

Fibroblast cultures of human embryonic material, 42-48 hr after the start of the first passage, were irradiated with doses of 5-50 r  $\gamma$ -rays and fixed after 24-36 hr. The frequency of chromosome aberrations in ana-telophase and in metaphase of the first division after irradiation was scored. After doses of 5, 10, 25 and 50 r the frequency of chromosome abnormalities (predominantly chromatid bridges and single and double fragments) increased from the control value of 1.35% to 1.6, 2.8, 6.6 and 14% respectively. In the dose range 10-50 r, 95% of chromosomal abnormalities are single-hit breaks, and each injured nucleus contains as a rule one aberration. Thus, the frequency of damaged nuclei is 0.25%, and is very similar to the figure of 0.24%/r found previously for the effect of X-rays on human embryonic fibroblasts.

Some preliminary data were obtained for acute and for chronic irradiation of human embryonic cells.

Institute of Biophysics and Academy of Sciences of the USSR, Moscow

2

report presented at the 2nd Intl. Congress of Radiation Research,  
Harrogate/Yorkshire, Gt. Brit. 5-11 Aug 1962

GLEMBOTSKIY, Ya.L.; PROKOF'YEVA-BEL'GOVSKAYA, A.A.; SHAMINA, Z.B.;  
KHOVSTOVA, V.V.; VALEVA, S.A.; EYGES, N.S.; NEVZDOGINA, L.V.  
G D

Effect of space flight factors on the heredity and development in actinomycetes and higher plants. Probl.kosm.biol.  
1:236-247 '62. (MIRA 15:12)  
(SPACE FLIGHT--PHYSIOLOGICAL EFFECT)

S/865/62/002/000/016/042  
U405/D301

## AUTHORS:

Khvostova, V.V., Frokof'yeva-Bel'govskaya, A.A.,  
Sidorov, B.N. and Sokolov, N.N.

## TITLE:

Effects of space flight conditions on seeds of higher plants and an actinomycetes

## SOURCE:

Problemy kosmicheskoy biologii. v. 2. Ed. by N. Sisakyan and V. Yazdovskiy. Moscow, Izd-vo AN SSSR, 1962, 153-163

## TEXT:

The seeds of plants and the spores of actinomycetes were selected from the viewpoint of their chromosome stage and owing to their practical value in prolonged space flights. The experimental method is described. In the case of seeds, the genetic effect was estimated by the number of cells with chromosome aberrations in the rootlets. It was found that the percentage of cells with chromosome aberrations in the first mitoses of the rootlets of the wheat ППГ-186 (PPG-186) increased after flight on the space ships Vostok and Vostok-2. The same effect was observed in pea seeds.

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Effects of space flight ...

S/865/62/002/000/016/042  
D405/D301

No such effects were observed in the seeds of *Allium fistulosum* and *Nigella damascena* (winter onion and ranunculus). Thus, the genetic effect was most marked in the case of wheat, which has numerous long chromosomes. An analysis of the types of chromosome aberration also shows that the chromosomes are affected by the flight conditions. It is however not clear precisely which factors act on the chromosomes. With regard to physiological effects, the germinating ability and growth energy of the seeds of *Allium* and *Nigella* were stimulated; this applies in particular to the radiation resistant species (*Nigella*). An increase in mitotic activity (as determined by the percentage of dividing cells) was observed only in the case of the pea species Spartanets. Two strains of the spores of *Actinomyces erythreus* reacted differently from the space flight conditions. The viability of the strain with large nucleic elements and resistant to ultraviolet radiation increased, whereas the strain sensitive to ultraviolet radiation exhibited a sharp drop in viability. The viability of the spores of *Actinomyces aureofaciens* decreased sharply. The growth of the mycelium of both strains of *Act. erythreus* was stimulated. There are 11 figures.

Card 2/2

PROKOF'YEVA-BEL'GOVSKAYA, A.A.; KAPITONOV A.O.N.; SHAMINA, Z.M.

Cytological study of the changes in Actinomyces cells caused by  
radiation. TSitologija 4 no.1:18-26 Ja-F '62. (MIRA 15:4)  
(RADIATION--PHYSIOLOGICAL EFFECT) (ACTINOMYCES)

PROKOF'YEVA-BEL'GOVSKAYA, A.A.; CHZHAN CHZNUN-KHE [Chang Chung-ho]

Electron microscope analysis of the amphinucleus. Biofizika,  
7 no.2:165-170'62.  
(MIA 16:8)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.  
(CELL NUCLEI) (ELECTRON MICROSCOPY)

PROKOF'YEVA-BEL'GOVSKAYA, Aleksandra Alekseyevna; DUBININ, N.P.,  
otv. red.; IGNAT'YEVA, G.M., red.izd-va; PRUSAKOVA, T.A.,  
tekhn. red.

[Structure and development of actinomycetes] Stroenie i  
razvitiye aktinomitsetov. Moskva, Izd-vo AN SSSR, 1963. 275 p.  
(MIRA 16:10)

1. Chlen-korrespondent AN SSSR (for Dubinin).  
(Actinomyces)

PROKOFYEVA-BELGOVSKAYA, A. A.,

"Heterocyclicity of the System of Cell Nucleus."

report submitted for the 11th Intl. Congress of Genetics, The Hague, Netherlands,  
2-10 Sep 63

PROKOF'YEVA-BEL'GOVSKAYA, A. A.

Human chromosomes in the normal state. TSitologija no.1:  
5-23 Ja-F'63. (MIRA 16:6)

1. Laboratoriya kariologii Instituta radiatsionnoy i fiziko-  
khimicheskoy biologii AN SSSR, Moskva.  
(CHROMOSOMES)

БОКСЕР В.А. - БЕЛГОВСКИЙ, А.А.

Chromosomal disorders in man; disorders in the system of sex chromosomes. TSitologija 5 no.5:487-498 S-0 163.

(MTRK 17:4)

I. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR,  
Moskva.

PROKOF'YEVA-HEL'GOVSKAYA, A.A., kand.biolog.nauk; BOGDANOV, Yu.F.

Organization of chromosomes. Zhur.VKHO 8 no.1:33-46 '63.  
(MIRA 16:4)  
(Chromosomes)

PROKOF'YEVA-BEL'GOVSKAYA, A.A.; GORSKAYA, L.F.; DUBININA, L.G.; YATROVA, G.V.

Radiation injury of chromosomes in the culture of embryonic  
fibroblasts of man. Radiobiologija 4 no.5:708-714 '64.  
(MIRA 18:4)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

PROKOF'YEVA-BEL'GOVSKAYA, A.A.; GINDILIS, V.M.

Identification of human chromosomes. Izv. AN SSSR. Ser. biol.  
no.2:188-200 Mr.-Ap '65. (MIR 18:4)

I. Institute of Radiation and Physico-Chemical Biology, Academy  
of Sciences of the U.S.S.R., Moscow.

PROKOF'YEVA-BEL'GCVSKAYA, A.A.; SLEZINGER, S.I.

DNA replication in homologous human chromosomes. Dokl. AN SSSR  
162 no.3:681-684 My '65. (MIRA 18:5)

1. Institut radiatsionnoy i khimicheskoy biologii AN SSSR.  
Submitted December 16, 1964.

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7

LUS, Ya.Ya.; MEDVEDEV, N.N.; PROKOF'YEVA-BELGOROVSKAYA, A.A.;  
LYUBIMOVA-LEPINA, V.F.

In memory of Tenis Karlovich Lepin, 1895-1964. Biul. MOIP.  
Otd. biol. 70 no.2:153-155 Mr-Apr '65.

(MIRA 18:5)

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7"

SLEZINGER, S.I.; PROKOF'YEVA-BEL'GOVSKAYA, A.A.

Succession of DNA replication in plots of large chromosomes in  
man. Dokl. AN SSSR 161 no.2:459-462 Mr '65. (MIRA 18:4)

1. Institut radiatsionnoy i fiziko-khimicheskoy biologii AN SSSR.  
Submitted December 16, 1964.

YEPIANOVA, Ol'ga Igorevna; PROKOF'YEVA-BEL'GOVSKAYA, A.A.,  
otv. red.; IGNAT'YEVA, G.M., red.

[Hormones and cell reproduction] Gormony i razmnozhenie  
kletok. Moskva, Nauka, 1965. 240 p. (MIRA 18:11)

L 1430-66 EWT(m) DIAAP

ACCESSION NR: AP5020838

UR/0020/65/163/004/1001/1002

AUTHOR: Prokof'yeva-Bel'govskaya, A. A.; Pankova, N. V.; Orlov, Yu.  
A.

TITLE: Differential radiation injury of parent sets of chromosomes

SOURCE: AN SSSR, Doklady, v. 163, no. 4, 1965, 1001-1002, and  
insert facing p. 1002

TOPIC TAGS: experiment animal, radiation biologic effect, animal  
genetics

ABSTRACT: Parent sets of chromosomes were investigated in salmon  
(Salmo salar L.) and groundling (Misgurnus fossilis) fertilized ova  
in different stages of cleavage to determine radiosensitivity  
differences. The groundling fertilized ova were irradiated with a  
1000 r dose (165 kv, 15 ma, focal length 20 cm, 485 r/min) in the  
third stage of cleavage, and the salmon fertilized ova were irradiated  
with an 800 r dose in the fourth stage of cleavage. The irradiated  
embryos were fixed in the middle and late blastula stages and also  
the gastrula stage. Chromosome injuries were determined in prepara-

Card 1/3

L 1430-66

ACCESSION NR: AP5020838

tions of crushed stained embryos. In earlier morphological studies of salmon and groundling blastomeres, the dual structure of the nucleus observed in the interphase was found to correspond in the metaphase to two chromosome complexes which remained separate in all developmental stages. In the present study, only one of the two chromosome complexes forming the blastomere nucleus in an irradiated embryo was damaged. In some embryos, the maternal complex with its loosely distributed chromosomes was damaged, and in other embryos the paternal complex with its closely arranged chromosomes was found damaged. These differential radiation injuries of the parental set of chromosomes were observed in the metaphase stage as well as the anaphase-telophase stages. The effects of the initial chromosome breaks, usually of the chromosome and chromated bridges in the bridge-breakage-fusion cycle, were carried through to the blastula stage several cell generations after irradiation. However, the presence of certain types of fragments indicates that some chromosome aberrations are the result of breaks occurring several generations after irradiation. Radiation injury differences of parental chromosome complexes appear dependent on the developmental stage at the moment of irradiation. Orig. art. has: 1 table.

Card 2/3

L 1130-66  
ACCESSION NR: AP5020838

ASSOCIATION: Institut biologicheskoy fiziki Akademii nauk SSSR  
(Biological Physics, Institute Academy of Sciences, SSSR) <sup>44,55</sup>

SUBMITTED: 24Jun64 ENCL: 00 SUB CODE: LS

NR REF SOV: 005 OTHER: 008

Card 3/3 DP

KAPITONOV A. N.; PROKOF'YEVA-BEL'GOVSKAYA, A. A.

Cytological characteristics of the development of three strains of  
Actinomyces streptomyccini Kras. on various mediums. Antibiotiki 8  
no.12:1074-1080 D '63. (MIRA 17:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7

PROKOF'YEVA-BEL'GOVSKAYA, A.A., doktor biolog. nauk

Chromosomes and the organism. Priroda 54 no.5:20-27 My '65.  
(MIRA 18:5)

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7"

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7

PROKOF'YEVA-KORCHAGINA, V.P.

Embryologic study of yellow acacia. Biul. MOIP, Otd. biol. 59  
no.3:69-78 My-Je '54. (MLBA 7:7)  
(Botany--Embryology)

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7"

GODUNOV, S.F., prof.; PROKOF'YEVA-MIKHAYLOVSKAYA, L.E., dotsent [deceased];  
OSHEROVICH, V.Z., inzh.

Some problems of the biomechanics and treatment of foot deformities.  
Ortop., travm. i protez. 25 no.6:36-42 Je '64. (MIRA 18:3)

1. Iz Leningradskogo instituta protezirovaniya (dir. - dotsent M.V. Strukov). Adres avtorov: Leningrad, prospekt Karla Marksa, d.9/12, Leningradskiy nauchno-issledovatel'skiy institut protezirovaniya.

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7

PROKOPENKO, L.N. (Kyiv); RALL, G.A. (Kyiv); BRATKO, A.A. (Kyiv)

Ukrainian psychological conference, Vop. psichol. 12 no.3,165-187  
Mykola '65. (MIRA 18:7)

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7"

PROKOLIYENKO, L. N.

Prokoliyenko, L. N.

"Aspects of the mastery of grammatical concepts by students in the fifth class." Min Education Ukrainian SSR. Kiev State Pedagogical Inst imeni A. M. Gor'kiy. Kiev, 1956. (Dissertation for the Degree of Candidate in Pedagogical Sciences)

Knizhnaya letopis'  
No. 21, 1956. Moscow

PROKOLIYENKO, L.M. [Prokollienko, L.M.]

Individual approach to children in the correction of errors in pronunciation. Nauk.-dosl. inst. psichol. 11:97-101 '59.  
(MIRA 13:11)

1. Institut psichologii, Kiyev.  
(Speech therapy)

PROKOLIYENKO, L.N.

Conference on problems and methods at the Institute for Psychology  
of the Ukrainian S.S.R. Vop. psichol. 6 no. 6:187-190 N-D '60.  
(Ukraine--Educational psychology) (MIRA 13:12)

PROKOL'YEV, V.

Diploma of communist maturity. Znan.sila 37 no.2:6-7 p. 62.  
(MIRA 15:3)  
(Communist ethics)

PANKOVA, F., kand.tekhn.nauk; PROKOL'YEVA, T.; LYUTIKOVA, P.

Canning eggs in liquid form. Mias.ind.SSSR 32 no.6:22-23 '61.  
(MIRA 15:2)  
(Egg--Preservation)

VASIL'YEV, Dmitriy Konstantinovich; PROKONENKO, A. I., inzh., retsenzent;  
NEDELIN, N.K., nauchnyy red.; OZEROVA, Z.V., red.; KRYAKOVA,  
D.M., tekhn. red.

[Equipment and devices in ship repairs] Osnastka i prisposob-  
leniya v sudoremonte. Leningrad, Sudpromgiz, 1963. 196 p.  
(MIRA 16:3)

(Ships—Maintenance and repair)

PROKONENKO, V. G.

EXCERPTA MEDICA Sec.2 Vol.9/11 Physiology,etc. Nov56

5261. PROKONENKO V. G., ROMANOVA L. S. and BOGATSHEVA A. N. Physiol.  
Lab., Inst. of Surg. AMN, SSSR, Moscow. \*Effect of spinal pro-  
caine anaesthesia on motility of the digestive apparatus  
FIZIOL. Z. 1956, 42/2 (180-185) Illus. 4 (Russian text)  
The hunger contractions of the stomach, intestine and gallbladder of dogs are  
inhibited after aseptic inflammation produced by i. m. injection of turpentine, but  
spinal procaine anaesthesia counteracts this effect and accelerates the recovery  
of intestinal motility.  
Simonson - Minneapolis, Minn.

1970.

PROCEP. Experience with automotive transportation in open-pit ore mining. II. . . 234.

Vol. 4, No. 8, Aug. 1956.

METALLURGY.

TECHNOLOGY

Praha, Czechoslovakia

So: East European Accession, Vol. 6, No. 3, March 1957

PROKOP, A.

Root character of root stocks as determined by the selen  
variety. Acta agrobot 14 no.1:193-203 '63.

1. Institute of Ornamental Plants, Central College of Agricul-  
ture, Warsaw-Ursynow.

PROKOP, FRANTISEK

Geologicke pomery prehradnickych mist na ceskych tocich. (1. vyd.) Praha,  
Nakl. Ceskoslovenske akademie ved. (Ustredni ustav geologicky. Geotechnica.  
Sbirka prac z prakticke geologie, sv. 22) (Geologic conditions on sites  
suitable for dam construction on Czech streams. 1st ed. German and Russian  
summaries. fold. maps (in pocket)  
Vol. 1. (Basins of the Divoka and Ticha Orlice Rivers) 1957. 84 p

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

DEDKOVA, Anna; PROKOP, Ivo

Information on standardization in foreign countries. Normalizace 11  
no. 2: 57-62 F '63.

KUCHAR, Josef; DEDKOVA, Anna; BINOVA, Tatana, inz.; PROKOP, Ivo

Information on standardization abroad. Normalizace 11 nc.l:  
17-22 Ja '63.

CZECHOSLOVAKIA/Chemical Technology. Chemical  
Products and Their Applications.  
Cellulose and Its Derivatives.  
Paper.

H

Abs Jour : Ref Zhur-Khimika, No 6, 1959, 21872

Author : Prokop, Jiri; Korda, Josef

Inst :

Title : Treatment of Paper Pulp in a "Suprator".

Orig Pub : Papir a celulosa, 1958, 13, No 7, 150-152

Abstract : The problem of the influence of a "supratonator" of the paper pulp treated is reviewed. It was established that breaking up and purification improves the quality of the fiber and the total economic results. The influence of the concentration of the pulp and the width of the shavings

Card : 1/2

CZECHOSLOVAKIA/Chemical Technology. Chemical Products and Their Applications. Cellulose and Its Derivatives. Paper.

H

Abs Jour : Ref Zhur-Khimiya, No 6, 1959, 21872

between the purification appliances on the capacity of the "supratinator", specific outlay of power and quality of pulp, was investigated. -- From the author's summary.

Card : 2/2

H-138

JADRNY, L.; PROKOP, J.

Kidney injuries by sulfathiazole. Prakt.lek., Praha 35 no.9:201-  
203 5 May 55.

1. Z interni kliniky Statni fakultni nemocnice v Plzni, Prednosta;  
Doc. MUDr K.Bobek. Z ustrednich laboratori statni fakultni nemocnice  
v Plzni. Prednosta: Doc. MUDr A.Mecl.

(SULFATHIAZOLE, injurious effects,  
kidney lesions)

(KIDNEYS, diseases,  
caused by sulfathiazole)

PROKOP, Josef, promovany fyzik

Use of the graph theory for analysis of linear circuits.  
Slaboproudý obzor 24 no.10:612-616 O '63.

1. Vyzkumný ustav telekomunikací, Praha.

21111

39196

S/264/62/000/002/002/003  
I006/I206

AUTHOR: Prokop, Josef, and Skolický, Leopold

TITLE: Hydraulic device for airscrews of variable pitch

PERIODICAL: Referativnyy zhurnal, vozдушный транспорт. Сводный том, № 2, 1962, 26, abstract  
2 A170 P. Czech. patent, class 62c, 5/02, no. 93867, February 15, 1960

TEXT: The patented hydraulic device for propellers with variable pitch is characterized by the fact that an additional spring-type hydraulic accumulator is introduced into the ordinary two-sided hydraulic propeller control system, which brings the propeller blades into weathervane position and then withdraws them. During normal working of a propeller the hydraulic accumulator is filled with oil by the pump and is always ready for action by turning a handle in the pilot's cabin. A diagram shows the propeller action with the regulating system.

[Abstracter's note: Complete translation.]

X

Card 1/1

DOLEZAL, Vaclav, inz., C.Sc.; PROKOP, Josef; VOREL, Zdenek, inz., C.Sc.

The theory of graphs in the analysis of electrical networks.  
Aplikace mat 7 no.5:331-343 '62.

1. Matematicky ustav, Ceskoslovenska akademie ved, Praha 1,  
Zitna 25 (for Dolezal and Vorel). 2. Vyzkumny ustav  
telekomunikaci, Praha 10 - Strasnice, Trebohosticka (for  
Prokop).

ACC NR: AP7005063

SOURCE CODE: CZ/0039/66/027/011/0703/0708

AUTHOR: Prokop, J. (Engineer; Candidate of sciences)

ORG: CVUT, Department of Electrical Engineering, Prague (CVUT, fakulta elektrotechnicka)

TITLE: Propagation of radio waves in a subterranean waveguide

SOURCE: Slaboproudý obzor, v. 27, no. 11, 1966, 703-708

TOPIC TAGS: VHF wave propagation, radio wave propagation, waveguide, waveguide propagation, subterranean waveguide

ABSTRACT: The origin of subterranean waveguides, 2 to 20 km below the earth's surface is described. Possibilities are outlined for exploiting these for long-distance message transmission, especially in the VLF range. A short derivation is stated of the electrical field strength within the granite massive filling this duct. Since such measurements are very difficult to accomplish, a model

UDC: 621.396.94

621.392.26

Card 1/2

ACC NR: AP7005063

is suggested and described for the measurements. The theoretical field strength  
is then compared with the results gained in model measurements. Orig. art.  
has: 12 figures and 22 formulas. [Author's abstract] [KS]

SUB CODE: 09, 08, 17/SUBM DATE: none/ORIG REF: 003/SOV REF: 001/  
OTH REF: 005

Card 2/2

PROKOP, J.

CZECHOSLOVAKIA/Human and Animal Physiology - Excretion.

V-6

Abs Jour : Ref Zhur - Biol., No 2, 1958, 8703

Author : Vladimir Wagner and Josef Prokop

Inst : -

Title : Immunotoxicity of the Kidneys. IV. The Absence of Autoallergy in the Development of Diffuse Glomerulonephritis.

Orig Pub : Vnitrní lekarství, 1956, 2, No 11, 1009-1014

Abstract : The presence of nephrolysin was studied in 48 patients with diffuse glomerulonephritis at different stages of the disease. Autoantibodies were detected by the agglutination reaction in the patients' blood; skin test did not give a positive reaction. The authors reject an allergic mechanism in the pathogenesis of glomerulonephritis; they emphasize the direct action of the autoantibodies on kidney tissue and consider the development of glomerulonephritis as an immunotoxic reaction.

Card 1/1

PROKOP, J., inz.; DVORAK, F., inz.

Properties of Czechoslovak kaolins used for coating mixtures.  
Sbor cel pap no. 7:229-244 '62.

KASALOVA, D.; NECL, A.; PROKOP, J.; MALY, V.; WAGNER, V.; ZAVAZAL, V.  
Technicka spoluprace Sovakova, A.

Immunological findings in pregnancy toxemias. I. Tissue anti-bodies in pathological and normal pregnancies. Cas.lek.ceck. 98 no.38:1189-1192 18 S '59.

1. Porodnicka klinika Statni fakultni nemocnice v Plzni, prednosta prof.dr. Vl. Mikolas, Interni klinika Statni fakultni nemocnice v Plzni, prednosta prof.dr. K. Bobek, Ustav organizace zdravotnictvi v Praze, prednosta prof.dr. F. Prosek. Bakteriolog-serologicke odd. nemocnice na Bulovce, prednosta doc.dr. Vl. Wagner.

PREGNANCY TOXEMIAS immunol.)

L 42233-66 EEC(k)-2/FCC WS-2

ACC NR: AP6031562 SOURCE CODE: CZ/0039/65/026/008/0464/0468  
42  
B  
AUTHOR: Prokop, Jaroslav (Engineer; Candidate of sciences)  
ORG: Electrical Engineering Faculty, CVUT, Prague (CVUT, Fakulta elektrotechnicka)  
TITLE: Atmospherics in the very low frequency range  
SOURCE: Slaboproudý obzor, v. 26, no. 8, 1965, 464-468  
TOPIC TAGS: LF propagation, ionospheric propagation  
ABSTRACT: The article describes the propagation at very low frequencies as well as the characteristics of the atmospherics. A dependence is ascertained between the atmospherics level and the daily variations of the lower layers of the ionosphere and is corroborated by measurements at a frequency of 27 kc. At the same time, substantial seasonal variations of the atmospherics level have been ascertained for the latitudes of Czechoslovakia. Orig. art. has: 10 figures. [Based on author's Eng. abst.] [JPRS]  
SUB CODE: 20 / SUBM DATE: 18Feb65 / ORIG REF: 001 / OTH REF: 005

Card 1/1 *tdk*

UDC: 621.396.821

PROKOP, Jiri, inz.; JASA, Jaroslav; DVORAK, Frantisek, inz.

Use of domestic butadiene-styrene lattices for surface finishing of paper. Papir a celulosa 18 no. 12: 246-249 '63.

1. Vyzkumny ustav papiru a celulosy, pracoviste Praha (for Prokop and Jasa).
2. Ministerstvo chemickeho prumyslu (for Dvorak).

WYK, S; MARLOW, J; PROKOP, L.

WYK, S; MARLOW, J; PROKOP, L.

1. Department of Food Hygiene of the Medical Faculty of Vy-  
sokovice (U), Czechoslovak Hygiene Faculty (U), Prague; 2. Institute of Hygiene (Ústav  
Hygieny), Prague

"Prague, Technická fakulta Univerzity Karlovy, No 1, 1969, p 1-37

"Technical Text for the Selection of Preservatives in  
Food."

HRUBY,S.; MARESOVA, P.; PROKOP,L.

Biological test for the estimation of preservatives in foods.  
Cesk. hyg. 10 no.1:10-17 F '65.

1. Oddeleni hygieny vizivy lekarske fakulty hygienicke Karlovy  
University, Praha; Ustav hygieny, Praha.

PROKOP, M., inz. (Brno)

Automatic measurement by the Optikator. Jemna mech opt 8  
no.6:184-185 Je '63.

PROKOP, M., inz. (Praha)

Mortars for ceramic panels. Stavivo 41 no.4:128-130 Ap '63.

PITOKY, M., inz.

Heat insulating mortars for ceramic panels, Stavivo 42 no.11:412-  
414 N '64.

1. Development Worksite of the Prazske stavebni zavody, Prague.

SATAVA, Vladimir; PROKOP, Milo

Examination of gypsum dehydration kinetics in calcium chloride solutions.  
Silikaty 7 no.2:118-124 '63.

1. Katedra technologie silikatu, Vysoka skola chemicko-technologicka,  
Praha.

Prokop, M

PHASE I BOOK EXPLOITATION

CZECH/5120

Meteorologie pro sportovní letce (Meteorology for Sports Flyers) Prague, Národní vojsko, 1960. 241 p. 4,000 copies printed. (Series: Kniznice svazarmu, sv. 5)

Ed.: Karel Zelený; Assistant Editors: For Ch. 2: Mojmír Prokop, Doctor; Ch. 3: Theoretical pt.) Mojmír Prokop, Doctor, and Ivan Černoch, Chs.: 4, 6, and 7: Oldřich Kostka, Doctor; Chs.: 5 and 15: Ladislav Háza, Doctor; Chs.: 8 and 9: Jaroslav Kopáček, Doctor; Ch.: 10: Milan Koldovský and Jiří Horák; Chs.: 11-14: Jiří Förchtgott, Doctor; Resp. Ed.: Jiří Muk.

PURPOSE: This book is intended for sports plane and glider pilots.

COVERAGE: The book, composed to meet the needs of the aeroclubs of Svaz pro spolupráci s armádou (Union for Cooperation With the Army), discusses the principal types of weather phenomena likely to be encountered in flight. The measurement of meteorological elements is described. Meteorological phenomena of particular interest to glider pilots, viz., convection, turbulence, mountain currents, etc., are treated in some detail. Synoptic maps and weather reports are briefly described. Review questions accompany each chapter. No personalities are mentioned. There are 42 references: 7 Soviet, 21 English, 8 Czech, 4 German, and 2 Polish.  
Card 1/12

PROKOP, MALEK

✓ A new aspect of the question of the circulation and the action of substances in states of shock. Prokop Malek (Ustav klin. exptl. chir., Prague-Krč). Časopis Lékařů Českých 94, 630-8 (1956). Qualitative differences in the influence of various states of shock (I) (tourniquet, traumatic and hemorrhagic I) on the absorption of hematotropic and lymphotropic substances were observed. Substances entering the circulation chiefly via blood capillaries such as insulin, KCNS<sup>4</sup>, Na<sub>2</sub>HPO<sub>4</sub> and KI<sup>131</sup> are absorbed slowly in I, the rate of absorption being in inverse relation to the degree of development of I. On the other hand the absorption of substances entering the circulation via the lymphatic system, such as Congo red and dextran, is accelerated, the rate of absorption being in direct proportion to the degree of I. The practical outcome of this observation is that drugs may be administered into the organism by the lymphatic route. When the blood absorption route is closed in I, the lymphatic route remains open and is more accessible than under normal conditions. This has been proved in the case of penicillin, in which the apparently paradoxical conclusion was reached, that its procaine salts, normally dissolving with difficulty, are absorbed in I better than the K salt of crystalline penicillin G.

Zemásek

CZECHOSLOVAKIA / Chemical Technology. Chemical Products H  
and Their Applications. Glass.

Abs Jour: Ref Zhur-Khimiya, 1959, No 4, 12577.

Author : Prokop, Metodej; Jirovka, Bohumil.

Inst : Not given.

Title : Channeling and Conveying Bottles to the Lehr by a  
Two-Fold Operation on the Owens Machine.

Orig Pub: Sklar a keramik, 1958, 8, No 6, 177-178.

**Abstract:** The double production of bottles increases the output of the Owens-Single reconstruction machine by 80% with automatic channeling and conveying of the bottles into the lehr. A description is cited for the adaptation of the channeling and conveying devices, which consist of a basic driving gear from the Owens machine which engages the device, bucket, pusher, hoist, drop mechanism and mechanism which puts the bottles on the lehr conveyor.-- L. Sedov.

Card 1/1

PROKOP, M.

"Measuring the index of refraction of optical materials in the infrared zone."

p. 12 (Jemna Mechanika A Optika) Vol. 3, no. 1, Jan. 1958.  
Prague, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,  
April 1958

CZECHOSLOVAKIA/Optics - Optical Methods of Analysis

K-8

Abs Jour : Rof Zhur - Fizika, No 10, 1958, No 24131

Author : Prokop M.

Inst : Not Given

Title : Change in the Index of Refraction of Optical Materials in  
the Infrared Region

Orig Pub : Jemna mechan. a opt., 1958, 3, No 2, 47-48

Abstract : No abstract

Card : 1/1

PROKOP, M.

"Evaporography; method of observing and photographing in the dark."

JEMNA MECHANIKA A OPTIKA, Praha, Czechoslovakia, Vol. 1., No. 3, March 1959.

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

Unclassified.

AUGUSTA, Ivo, inz.; PROKOP, Miroslav, inz.

Coarse ceramics for wall panels. Poz stavby 11 no. 3:151-155 '63.

1. Frazske sdruzeni n.p. ve stavebnictvi, Praha.

PROKOP, Mir., inz.

Reconstruction of a steel viaduct. Zel dop tech 9 no.9:286-287 '61.

(Viaducts)

PROKOP, Mirko, inz.

Nonelectric starter of combustion engines. Automobil  
Cz 7 no.11:342-349 N'63.

PROKOP, Miroslav, inc.

Reinforcement of steel bridge structure, Tel. top. term 12  
no. 233-41 \*64

PROKOP, O.

The Gm, Gc and Ag serum groups. Sud.-med. ekspert. 6 no.3:33-37  
(MIRA 16:10)  
Jl-S'63.

1. Institut sudebnoy meditsiny (dir. - prof. O.Prokop) Uni-  
versiteta imeni Gumbol'dta, Berlin.  
(SERUM)

22(3)

CZECH/3-59-9-30/39

AUTHOR: Prokop, O

TITLE: Theory of a Parachutist Drop (Teorie vysazování)

PERIODICAL: Křídla Vlasti, 1959, Nr 9, p 21 (CSR)

ABSTRACT: This is a continuation of the article which explains the basic theory of dropping a parachutist from an aircraft. There are 5 diagrams.

Card 1/1

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7

UMNOVÀ, M. A.; SAMUSEVA, G. S.; PROZOROVSKAYA, G. P.; PISKUNOV, T. M.; ICHALOVSKAYA, T. A.;  
PROKOP, O.

"Raspredeleniye razlichnykh faktorov krovi u naseleniya Moskvy."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences,  
Moscow, 3-10 Aug 64.

APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001343210019-7"

22(3)

CZECH/3-59-10-31/37

AUTHOR: Prokop, O.

TITLE: Theory of Parachutist Drop (Teorie vysazování)

PERIODICAL: Křídla Vlasti, 1959, Nr 10, pp 24, 25 and upper part of p 26 (CSR)

ABSTRACT: Author deals with the principles of a parachutist drop for a target landing jump. There are 4 graphs and 1 table.

Card 1/1

PROKOP,O.

Groups Gm, Gc and Ag in the serum. Sud.-med.ekspert. 6 no.2:  
28-32 Ap-Je'63. (MIRA 16:7)

1. Institut sudebnoy meditsiny (dir.prof. O.Prokop) Universiteta  
imeni Gumbol'dta, Berlin.  
(SERUM) (ANTIGENS AND ANTIBODIES)

CZECH/3-59-11-28/36

(  
AUTHOR: Prokop, O.  
TITLE: Theory of a Parachutist Drop (Teorie vysazování)  
PERIODICAL: Křídla Vlasti, 1959, Nr 11, pp 22 and 23 (CSR)  
ABSTRACT: This is the final portion of the article which deals  
with the theory of a parachutist drop for a precision  
target landing. There are 5 diagrams.

Card 1/1

VALIHRACH, Otakar; PROKOP, Oldrich

Sand reclamation from hydraulic blast cleaners. Slavarenstvi  
12 no.10:377-378 ) '64.

1. Zavody presneho strojirenstvi National Enterprise,  
Gottwaldov.

BUJAN, Veljko, Prof. dr; PROKOP, Otto, Prof. dr

Comparative evaluation of the incidence of the Gm-a factor in Yugoslavia and in other populations. God.Zborn.Med. Fak.Skopje no.10:7-12 '60.

1. Iz Instituta za sudsku medicinu i kriminalistiku medicinskog fakulteta u Skopju (Direktor Prof. dr Veljko Bujan) i Instituta za sudsku medicinu Humboldt'ovog universiteta u Berlinu (Direktor: Prof. dr Otto Prokop).

CZECHOSLOVAKIA

PROKOP, R.

Prague, Vestnik Ustredniho Ustavu Geologickeho,  
No 1, 1963, pp 65-66

"On the sixtieth Birthday of Professor Dr. Josef  
Augusta."

NEKVASILOVA, Olga; PROKOP, Rudolf

Saccocoma Agassiz, 1835 (Crinoidea, Articulata) from the Upper  
Cretaceous of Bohemia. Vest Ust geol 39 no.3:215-216 My '64.

1. Geological Institute, Czechoslovak Academy of Sciences,  
Prague: Central Geological Institute, Prague.

PROKOP, Rudolf

Sixtieth birthday of Professor Bedrich Boucok, Vlast. Mat. p. 601  
39 no. 4: 301 '64.

NEKVASILOVA, Olga; PROKOP, Rudolf

Roveacrinidae (Crinoidea) from the Upper Cretaceous of Bohemia.  
Vest Ust geol 38 no.1:49-52 Ja '63.

1. Geologicky ustav, Ceskoslovenska akademie ved, Praha; Ustredni  
ustav geologicky, Praha.

KLIMES,M.; DEMANT,F.; DRAHOVSKY,V.; TISCHLER,V.; PROKOP.R.

Surgical treatment of urolithiasis and its effect on the course  
of pyelonephritis in childhood. Rozhl. chir. 43 no.3:142-147  
Mr'64.

1. Urologicka klinika Lekarskiej fakulty UPJS v Kosiciach  
(prednosta zast.: doc.dr. V.Drahovsky) a Detska klinika Le-  
karskiej fakulty UPJS v Kosiciach (prednosta: prof.dr.  
F.Demant).

\*

PROKOP, R.

/  
CZECHOSLOVAKIA

NEKVASILOVA, O; PROKOP, R.

Prague, Vestnik Ustredniho Ustavu Geologickeho,  
No 1, 1963, pp 49-51

"Roveacrinidae (Crinoidea) from the Upper Cretaceous  
of Bohemia."

PROKOP, Rudolf

In commemoration of the 60th birthday of Professor Josef Augusta.  
Vest Ust geol 38 no.1:65-66 Ja '63.

*HORAK*

HORAK, R. inzh. MRNKA, Z. inzh.; PROKOP, S., inzh.; NOVIKOV, D.D.  
[translator], gornyy inzh.

Mining iron ores in Ejpovice. Gor.zhur. no.10:34-39 O '57.  
(MIRA 10:12)  
(Czechoslovakia--Iron mines and mining)

PROKOP, S.

"Styrian Erzberg" p. 144

RUDY. Praha, Czechoslovakia, Vol. 7, No. 4, April, 1959

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

KLEMENT, V.; MUSIL, F.; PROKOP, V.

Statistical evaluation of some malignancy tests developed for the improvement of diagnosis. Neoplasma 9 no.2:177-184 '62.

1. Onkologische Abteilung des staatlichen Fakultatskrankenhauses in Pilsen. Institut der medizinischen Chemie der medizinischen Fakultat der Karlsuniversitat, Sitz in Pilsen. Interne Abteilung des Bezirkskrankenhauses Pilsen-Nord, CSSR.

(NEOPLASMS diag)

*PROKOF V.*

- D  
P
- Lippeis, Chemie, Vol. 14, No. 5, March 1962
1. "Development of the Chemical Industry of the German Democratic Republic in 1961, and the Work of the Ministry of National Economy of the State Planning Commission (Staatsliche Planverwaltung) of the German Democratic Republic," German Democratic Republic, Berlin, pp. 120-121.
2. "Thermodynamic Properties of Proteins," Heinz LINDNER of the Bio-Physical Division, Bureau (Bundesamt für Technologie und Wissenschaften) of the DFG (Deutsche Akademie der Wissenschaften), Berlin, pp. 122-123.
3. "Selective Fractionation of Water Oases of Protein Components," Hans-Joachim PLEISS, Siegfried KASPER and K. KÜHN, "Die physikalisch-technischen Methoden der Protein-Chemie," pp. 125-126.
4. "Separation of Certain Mixed Fats from Polyester-Derivatives," Erich LÖWENBERG by means of Fusion Electrolysis, French Academy of Sciences of the Institute of Metal Chemistry (Institut für Metallkunde) of the College of Applied Chemistry (Technische Hochschule für Chemie) at Ludwigshafen (Rhine) Dr. P. MATHES, pp. 127-128.
5. "Preparation of Chlorocarboxyethoxethane in a Mixture Plant with Oil Distillation," Herbert LÜTTICH of the Institute of Silicate and Fluorocarbon Chemistry (Institut für Silikat- und Fluorcarbonchemie) at Radebeul (Director Prof. Dr. H. LÜTTICH), pp. 129-130.
6. "Production Products of Phenolic Soaps by High Pressure Hydrogenation with Al-Oxy-Addition Compounds," Bruno DÖRR and Gerhard JÖRGENSEN of the Division of High Pressure Hydrogenation and Vegetable Laboratory of the DFG (Deutsche Forschungsgemeinschaft) at Berlin, pp. 130-132.
7. "Studies on the Constitution, Flammability and Viscosity-Temperature Behavior of a Polyacrylic Oil Product," Leo DÖRFLER, University of Regensburg, Institute of Chemical Technology, Institute of the DFG (Deutsche Forschungsgemeinschaft) at Regensburg, Director of the Research and Development Division of the DFG (Deutsche Forschungsgemeinschaft) and Director of the Institute of Organic Chemical Products of the German Academy of Sciences in Berlin, pp. 132-133.
8. "Some Molecular Compounds of Antitumor Antibiotics," Helmut

PROKOP, Vit

Distribution of operational costs in the electrolytic production of chlorine and soda lye. Chem prum 11 no.11:585-586 N '61.

1. Chemoprojekt, Bratislava.

HORVAT, F., MUDr.; PROKOP, V.

Treatment of atrophic rhinitis with reserpine and iron. Cesk. otolaryng. 14 no.1:23-26 F'65.

1. Usne, nosne a krone oddelenie nemocnice a poliklinikou v Piestanech (veduci: MUDr. F. Horvatu.).

Anesthesiology

CZECHOSLOVAKIA

UDC 616-089.5(:615.738.615.784)

POCTA, Jaroslav; PROKOP, Vlastimil; Department of Anesthesiology, Central Military Hospital (Ansteziologicke Oddeleni Ustredni Vojenske Nemocnice), Prague, Head (Nacelnik) Docent Dr JIRI POKORNY.

"Neuroleptanalgesia."

Prague, Vojenske Zdravotnické Listy, Vol 35, No 3, Jun 66, pp 117-121

**Abstract:** The authors describe their experience with the use of neuroleptanalgesia, both in general and in local anesthesia. The drugs which they used were Dehydrobenzperidol and Fentanyl. 200 operations conducted at the Central Military Hospital at Prague in a 6 months period in 1965-1966 are discussed. The length of the individual surgical treatments varied between  $\frac{1}{2}$  and  $4\frac{1}{2}$  hours. The course of the anesthesia is described; its effects upon breathing, blood circulation, and the CNS are evaluated. Instances when neuroleptanalgesia should be combined with the use of other anesthetics are discussed. Side effects of neuroleptanalgetics are described. 1 Figure, 1 Table, 8 Western references.

1/1

PROKOP, Z.

A seminar on the use of plastic materials in the wool industry. p. 126.

TEXTIL. (Ministerstvo lehkého průmyslu) Praha, Czechoslovakia. Vol. 14,  
no. 4, April 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11,  
November 1959.

Uncl.

L 10061-63 EWT(1)/EPF(n)-2/EWP(q)/EWT(m)/BDS/T-2/EEC(b)-2--AFFTC/ASD/  
ESD-3/SSD--Pu-4--GG/WH/IJP(C)/JD

ACCESSION NR: AR3000368 S/0058/63/000/004/E055/E055

74

SOURCE: RZh. Fizika, Abs. 4E373

AUTHOR: Prokopalo, O. I.; Fesenko, Ye. G.

TITLE: Effect of annealing temperature and of the state of the initial components  
on the dielectric properties of Ba Ti O<sub>3</sub> -- Ba Fe O<sub>3</sub> mixtures

CITED SOURCE: Sb. Segnetoelektriki. Rostov-na-Donu, Rostovsk. un-t, 1961,  
101-104

TOPIC TAGS: Ferroelectrics, dielectric properties, effect of annealing

TRANSLATION: An investigation was made of the dependence of the dielectric constant and the Curie temperature of ceramic specimens of isomorphous mixtures of BaTiO<sub>3</sub> and BaFeO<sub>3</sub> on the crystalline modifications of the initial components and the temperature of the final annealing of the specimens. The mixture components employed were cubic (K) and tetragonal (T) BaTiO<sub>3</sub>, and cubic (k), tetragonal (p), and hexagonal (h) BaFeO<sub>3</sub>. The prepared mixtures

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Kk, Kt, Kh, Tk, Tt, and Th contained not more than 10 molar percent of BaFeO<sub>3</sub>. The specimens were annealed at a temperature of 1380 and 1500 degrees C and measured at a frequency of 0.5 megacycles at a field intensity 100 v/cm. For the Tt, Tk, and Th specimens obtained by annealing at 1380 degrees C, the value of Epsilon decreases, particularly at the Curie temperature, with increasing percentage content of BaFeO<sub>3</sub>. The Curie temperature remained practically the same. For the specimens Kk, Kt, and Kh the Curie temperature decreases along with the decrease of Epsilon. The greatest reduction in the Curie temperature was observed in the Kk specimen. With increasing annealing temperature to 1500 degrees C, the Curie temperature for all the specimens greatly decreases with increasing concentration of BaFeO<sub>3</sub>. The obtained results are qualitatively explained by the diffusion process which occurred during the sintering of the specimens and the transformation of the perovskite modification of Ba Ti O<sub>3</sub> and of BaFeO<sub>3</sub> into hexagonal at temperatures above 1200 degrees C.

A. Fotchenkov

DATE ACQ: 14May63 ENCL: 00 SUB CODE: PH

cs/194  
Card 2/2

ACCESSION NR: AR4046009

S/0058/64/000/007/E039/E040

SOURCE: Ref. zh. Fizika, Abs. 7E298

AUTHORS: Fesenko, Ye. G.; Prokopalo, O. I.; Komarov, V. D.;  
Shpolyanskiy, Ya. A.

TITLE: Investigation of the effect of modifiers with pentavalent  
cations on the properties of barium titanate

CITED SOURCE: Izv. Leningr. elekrotekhn. in-ta, vy\*p. 51, 1963,  
252-259

TOPIC TAGS: ferroelectric material, barium titanate, dielectric  
constant, x ray diffraction study, perovskite structure, pentavalent  
cation

TRANSLATION: To study the influence of modifiers on the properties  
of BaTiO<sub>3</sub>, the oxides V<sub>2</sub>O<sub>5</sub>, Nb<sub>2</sub>O<sub>5</sub>, Ta<sub>2</sub>O<sub>5</sub>, and Sb<sub>2</sub>O<sub>5</sub> were used and

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ACCESSION NR: AR4046009

were introduced into the BaTiO<sub>3</sub> by mixing for four hours in a ball crusher and sintering at 1380--1450C. The dielectric measurements have shown that with increasing V<sub>2</sub>O<sub>5</sub> content the character of the

curves  $\epsilon = f(t)$  does not change, the maximum of  $\epsilon$  decreases, and the Curie temperature drops 3--4%. Additions of Sb<sub>2</sub>O<sub>5</sub> greatly reduce the value of  $\epsilon$  at the Curie points, down to complete vanishing of the maximum of  $\epsilon$  when 5% of Sb<sub>2</sub>O<sub>3</sub> is introduced; a maximum of  $\epsilon$  appears at room temperature, the magnitude of which decreases with increasing Sb<sub>2</sub>O<sub>5</sub> content. When Ta<sub>2</sub>O<sub>5</sub> or Nb<sub>2</sub>O<sub>5</sub> is introduced into the BaTiO<sub>3</sub>, a decrease is observed in the value of  $\epsilon$  at the maximum, and the Curie temperature remains unchanged. With increasing concentration of Nb<sub>2</sub>O<sub>5</sub>, the average dimensions of the crystallites change from 30--50  $\mu$  for pure BaTiO<sub>3</sub> to 1  $\mu$  or less for samples with 5% Nb<sub>2</sub>O<sub>5</sub>.

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ACCESSION NR: AR4046009

X-ray diffraction investigations have shown that in all cases the perovskite structure is retained and that there is no hexagonal phase whatever. Thus, the introduction of pentavalent ions stabilizes the ferroelectric modification of BaTiO<sub>3</sub>. G. Gol'der.

SUB CODE: MM, SS                    ENCL: 00

Card 3/3