

USSR

SMIRNOVA, N. A., et al., *Gigiyena Truda i Professional'nyye Zabolevaniya*, No 9, Sep 71, pp 46-48

examination (frontal and lateral chest x-ray pictures and tomograms: the median layer and layers 2 cm in front and behind it). An x-ray of the thorax 18 hrs after phosgene intoxication is shown.

The frontal x-ray picture had a shadow running parallel to and 2-8 mm away from the left heart contour. No other changes were found in the lungs. The heart boundary was normal. At that time, the x-ray picture taken 18 hours after the accident was reexamined: it also contained the linear shadow running parallel to the heart. It was assumed that a pneumomediastinum had developed. The linear shadow was believed to represent parietal pleura displaced by air. The picture corresponded to data described in literature (A. I. Dombrovskiy; G. A. Zedgenidze and L. P. Lindenbraten).

On the ninth day, the patient had no complaints, his cough subsided, dyspnea developed only during physical exertion, there were no pulmonary noises, and the subcutaneous emphysema was no longer felt. His pulse was unstable, fluctuating from 64 to 120 beats per minute. EKG was normal with no signs of right heart dilation. The linear shadow along the left heart edge was no longer present on x-ray pictures, which confirmed the previous diagnosis of pneumomediastinum.

On the 25th day, the patient was discharged from the hospital in good condition.

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Acc. Nr.

AP0048844

Abstracting Service:

CHEMICAL ABST.

5-76

Ref. Code

UR0459

91041q Determination of the composition of the reaction mixture in the polymerization of organocyclosiloxanes by means of gel chromatography. Andrianov, K. A.; Zhidunov, A. A.; Zavin, B. G.; Suneikants, T. I. (Inst. Elementoorg. Soedin., Moscow, USSR). *Vysokomol. Soedin., Ser. A* 1970, 12(1), 20-5 (Russ). The contents of high b.p., low mol. wt. organocyclosiloxanes (present in a mixt. with polymers), e.g., octaphenylcyclotetrasiloxane, hexaphenylcyclotrisiloxane, 1,3,5,7-tetramethyl-1,3,5,7-tetraphenylcyclotetrasiloxane (I), 1,1,5,5-tetramethyl-3,3,7,7-tetraphenylcyclotetrasiloxane (II), 1,1,3,5,7-pentamethyl-3,5,7-triphenylcyclotetrasiloxane, 1,2,3,3,5,5-hexamethyl-7,7-diphenylcyclotetrasiloxane, 1,3,5-trimethyl-1,3,5-triphenylcyclotrisiloxane, heptamethylphenylcyclotetrasiloxane, octamethylcyclotetrasiloxane (III), hexamethyltrisiloxane, ferrocene, hexamethyldisiloxane, and SKTV-1 poly(dimethylsiloxane) rubber (mol. wt. 450,000) were studied by gel chromatog. The distribution factors (K_d) were calcd. from elution vols. (V_e) (C_6H_6 eluent). The K_d and V_e were inversely proportional to the mol. wt., e.g., I and II had identical V_e and K_d . Elution of SKTV-1 and III on a 96:4 styrene-divinylbenzene copolymer gave satisfactory results and was highly reproducible. A good correlation was obtained between gel chromatog. and gravimetric anal. of III. A ratio between gel chromatographic peaks gave a good indication of monomer consumption during polymn.

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REEL/FRAME

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USSR

UDC 678.84.01:537

BAZHENOVA, T. S., PAKHOMOV, V. I., ZHDANOV, A. A., POLYAKOVA, L. L.,
SMIRNOVA, L. N., EKSANOVA, N. D., and TARASOV, Ye. V.

"Electric Properties of the Epoxyorganosilicon Resin ES-9 and Compounds
Based on This Resin"

Moscow, Plasticheskiye Massy, No 2, 1973, pp 21-23

Abstract: Results are reported of the study of electric properties of the compounds based on dianic resin ED-5, polyfunctional resin ETP and epoxy-siliconorganic resin TPE-9 containing triphenylpentamethoxytrisiloxane [resin ES-9]. It was shown that the ES-9 resin is a good, active solvent for compounds based on any epoxy resin prepared for electrotechnical utilization. The ES-9 resin lowers considerably the starting viscosity of the epoxy binder preserving at the same time all of the desired electric properties of epoxy compounds both under normal usage as well as during prolonged heating, increased humidity, and elevated temperature.

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Information Theory

USSR

UDC 533.9.08

ZHDANOV, A.I., NESTERENKO, P.T., MAKAROV, A.F., GOLOSNYAK, V.L.

"Automation Of Analysis Of Experimental Data In Investigations Of Plasma Physics"

Vestn. Khar'kov. politekhn. in-ta (Bulletin Of Khar'kov Polytechnical Institute),
1970, No 50(98), pp 53-56 (from RZh--Elektronika i yeye primeneniye, No 1,
January 1971, Abstract No 1A236)

Translation: A system is described which is intended for automation of the analysis of the signals of diagnostic data units [датчик] recorded on a photographic film in experiments of plasma physics. This system, constructed on the base of the "Dnopr" controller, includes a specially developed device for introduction into the machine of graphic information. 3 ill. 3 ref. Summary.

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USSR

UDC 533.9.08:681.3

ZHEANOV, A.I., KLEMKO, N.P., DEM'YANOV, V.G.

"Complex Application Of Analog And Digital Computers In Investigations Of Plasma Physics"

Vestn. Khar'kov. politekhn. in-ta (Bulletin Of Khar'kov Polytechnical Institute), 1970, No 50(98), pp 57-63 (from RZh--Elektronika i yeye primeneniye , No 1, January 1971, Abstract No 1A237)

Translation: A description is presented of an analog complex assembled on the base of the MN-7 computer series. Problems investigated on such a complex are briefly described. In addition, the possibility is considered of modeling equations in partial derivatives with a combined use of a similar complex and the "Dnapi" controller. The results confirmed the possibility of an investigation of nonlinear processes in plasma which are described with the aid of equations in Euler variables. Instances of the use of such a complex are enumerated. 4 ill. 6 ref. Summary.

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USSR

UDC 533.92:621.039.61

VOYTSENYA, V. S.; ZISER, V. Ye., DIKIY, A. G., ZHDANOV, A. I., PINOS, I. B., YAROKER, Ya. N.

"Calculation and Modeling of Helical Windings of Various Types on Toroidal Surfaces"

Fiz. plazmy i probl. uprav. termoyader. sinteza. Resp. mezhved. sb.
(Plasma Physics and Problems of the Controlled Thermonuclear Fusion. Republic Interdepartmental Collection), 1972, No. 3, pp 137-141 (from RZh-Fizika, No 11, Nov 72, Abstract No 11G276)

Translation: The problem of the possibility of using various winding patterns for helical conductors on toroidal surfaces is investigated: geodesic lines, lines of constant inclination to the generatrix of the torus, and lines of a cylindrical and toroidal spiral. It is shown that a tight elastic grid can be a fairly good approximation for geodesic lines on a torus. Data are given for constructing a geodesic line on a toroidal surface with an arbitrary aspect ratio. The calculations were made on the "Ural-4" and "Mir" computers.

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USSR

UDC 547.1'118+541.124

KIREYEVA, A. Ya., ZHADANOV, B. V., SIDORENKO, V. V., and DYATLOVA, N. M.,

"Synthesis and Study of the Acid Dissociation of N-Carboxymethyl-N,N-bis(methylenephosphonic) Acid"

Leningrad, Zhurnal Obshchey Khimii, Vol 43, No 11, Nov 73, pp 2508-2511

Abstract: N-Carboxymethyl-N,N-bis(methylenephosphonic) acid $\text{HOOCH}_2\text{CN}(\text{CH}_2\text{PO}_3\text{H}_2)_2$ (I; H_5L) was synthesized by the interaction of glycine, formalin, and phosphorous acid in the presence of HCl (cf. K. Koedritzner and R. R. Irani, J. Org. Chem., 31, 1603, 1966). The distribution of various dissociated forms of H_5L (H_4L^- , H_3L^{2-} , H_2L^{3-} , HL^{4-} , L^{5-}) in relation to the pH at pH 1-12 was studied by IR spectroscopy. On the basis of the data obtained, a mechanism of the dissociation of I is proposed.

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USSR

AKHMANOV, S. A., ZHIDANOV, B. V., KOVRIGIN, A. I., and PERSHIN, S. M., Moscow State University ~~Imeni M. V. Lomonosov~~

"Effective Stimulated Scattering in the Ultraviolet Region of the Spectrum and Variance in Gain in the 0.26-1.06-Micron Range"

Moscow, Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 15, No 5, 5 Mar 72, pp 266-269

Abstract: Effective induced Raman emission and Mandelstam-Brillouin scattering were obtained in the UV region, and some characteristics of the two types of scattering were studied. An increase in Raman susceptibility in the UV region made it possible to create an effective Raman liquid-nitrogen laser with pumping at $\lambda = 0.26$ micron (at a pumping power of 10 kw in a system without mirrors it was possible to excite Stokes generation with an efficiency reaching dozens of percentage points). A marked increase in gain in the UV region was also recorded for stimulated Mandelstam-Brillouin scattering. The exciting radiation was obtained from a stable neodymium-laser, fourth-harmonic generator with one longitudinal and one transverse mode. The use of a cascaded system permitted simultaneous unimode radiation at $\lambda_1 = 1.06$ microns, $\lambda_2 = 0.53$ micron, $\lambda_3 = 0.35$ micron, and $\lambda_4 = 0.26$ micron. The gain factor for 1/2

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ARHMANOV, S. A., et al., Pis'ma v Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, Vol 15, No 5, 5 Mar 72, pp 266-269

stimulated Raman scattering in the UV region was measured in a parallel beam, and a difference was found in the character of the gain curves. Threshold pumping power values were measured for the Raman laser, as well as threshold pumping energies for stimulated Mandelstam-Brillouin backscattering in crystal and fused quartz. The frequency dependence of threshold characteristics and the character of the light breakdown in crystal and fused quartz and ADP were studied.

The authors thank A. Z. Grasyuk for providing the cryostat, and L. Pavlov and V. I. Kuznetsov for their assistance in the experiments.

2/2

1/4 025 UNCLASSIFIED PROCESSING DATE--27NOV70
 TITLE--PROSPECTIVE PLAN FOR DEVELOPMENT OF MEDICAL SCIENCE IN THE USSR IN
 1971-1975 -U-
 AUTHOR-(02)-KOVANOV, V.V., ZHDANOV, D.A.
 COUNTRY OF INFO--USSR DECEASED *Sept 1971*
 SOURCE--VESTNIK AKADEMII MEDITSINSKIKH NAUK SSSR, VOL 25, NO 6, 1970,
 PAGES 50-62
 DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL
 SCIENCES
 TOPIC TAGS--MEDICAL SCIENCE, DRUG TREATMENT, PROPHYLAXIS, DIAGNOSTIC
 MEDICINE, FIVE YEAR PLAN, VIROLOGY, MEOPLOSM, CARDIOVASCULAR SYSTEM
 DISEASE, HYGIENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAME--3008/0730

STEP NO--UR/0248/70/025/006/0050/0062

CIRC ACCESSION NO--AP0137802

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137802

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROSPECTIVE PLAN FOR DEVELOPMENT OF MEDICAL SCIENCE IN 1971 THROUGH 1975 SHOULD DETERMINE THE GENERAL DIRECTIONS OF DEVELOPMENT OF MEDICINE IN OUR COUNTRY. AND IT IS EXTREMELY IMPORTANT FOR DEVELOPMENT OF MEDICOBIOLOGICAL DISCIPLINES TO HELP SOLVE MEDICAL PROBLEMS OF MAJOR SCIENTIFIC AND PRACTICAL IMPORTANCE. IN THE NEXT FIVE YEARS PRACTICAL MEDICINE MUST BE ENRICHED WITH THE NEWEST METHODS AND MEANS OF PROPHYLAXIS, DIAGNOSIS AND TREATMENT. OF PARTICULAR IMPORTANCE ARE METHODOLOGICAL INVESTIGATIONS. PHILOSOPHICAL ISSUES IN MEDICINE AND PROBLEMS IN GENERAL PATHOLOGY MUST BE DEVELOPED EXTENSIVELY AND SERIOUSLY. THE GUIDING DOCUMENTS FOR PREPARING THE DRAFT PLAN OF DEVELOPMENT OF MEDICAL SCIENCE IN 1971-1975 WERE THE DECREE OF THE CENTRAL COMMITTEE OF THE CPSU AND USSR COUNCIL OF MINISTERS DATED 5 JULY 1968, NO 517, "ON MEASURES FOR FURTHER IMPROVEMENT OF PUBLIC HEALTHY AND DEVELOPMENT OF MEDICAL SCIENCE IN THE NATION:", AND NO 760 DATED 24 SEPTEMBER 1968, "ON MEASURES TO INCREASE THE WORK OF SCIENTIFIC ORGANIZATIONS AND TO EXPEDITE THE USE IN THE NATIONAL ECONOMY OF THE ADVANCES OF SCIENCE AND TECHNOLOGY". THE FIVE YEAR PLAN OF SCIENTIFIC RESEARCH FOR 1971-1975 INCLUDES MEDICAL PROBLEMS OF UNION SIGNIFICANCE ADMINISTERED BY THE PRESIDUM OF THE USSR AMS AND SCIENTIFIC MEDICAL COUNCIL OF THE USSR MINISTRY OF HEALTH. EACH PLAN FOR SCIENTIFIC RESEARCH IS PRECEDED BY AN EXPLANATORY NOTE WHICH REPORTS ON THE CURRENT STATUS OF A GIVEN PROBLEM IN THE USSR AND IN WORLD SCIENCE. SUBSTANTIATION IS GIVEN FOR THE PURPOSEFULNESS OF THE PROPOSED DIRECTIONS OF RESEARCH FOR THE PERIOD IN QUESTION.

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PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137802

ABSTRACT/EXTRACT--FOR EACH OF THE MAIN DIRECTIONS THE MAIN SECTIONS OF RESEARCH ARE GIVEN INDICATING DUE DATES AND THE MAIN EXECUTIVE INSTITUTIONS. IN ACCORDANCE WITH THE DECREE OF THE CENTRAL COMMITTEE OF THE CPSU AND USSR COUNCIL OF MINISTERS, IN THE FIVE YEAR PLAN SPECIAL ATTENTION IS GIVEN TO VIROLOGY, MALIGNANT NEOPLASMS, CARDIOVASCULAR DISEASES, AND HYGIENE. SCIENTIFIC COUNCILS, PROBLEM COMMISSIONS OF THE USSR AMS AND OF THE SCIENTIFIC MEDICAL COUNCIL OF THE USSR MINISTRY OF HEALTH, THE HEAD INSTITUTES AND DEPARTMENT OFFICES OF THE USSR AMS TOOK ACTIVE PART IN THE WORK PERTAINING TO LONG RANGE FORECASTING. A GENERAL ACADEMIC COUNCIL FOR LONG RANGE FORECASTING, THE MEMBERS OF WHICH INCLUDE THE GREATEST MEDICAL SCIENTISTS OF THE NATION, WAS CREATED UNDER THE PRESIDUM OF THE USSR AMS TO DISCUSS FORECASTS OF PARTICULAR IMPORTANCE TO THE DEVELOPMENT OF MEDICAL SCIENCE. FORECASTS PERTAINING TO CLINICAL, EPIDEMIOLOGICAL, AND HYGIENIC ISSUES WERE DISCUSSED AND ARE STILL UNDER DISCUSSION BY THE PRESIDUM OF THE SCIENTIFIC MEDICAL COUNCIL OF THE USSR MINISTRY OF HEALTH ON THE BASIS OF THE REVIEWS OF COMPETENT COMMISSIONS. AS A RESULT OF THE WORK DONE, FORECASTS WERE COMPILED ON MEDICAL ISSUES OF NATIONAL IMPORTANCE UNDER THE JURISDICTION OF THE PRESIDUM OF THE USSR AMS AND SCIENTIFIC MEDICAL COUNCIL OF THE USSR MINISTRY OF HEALTH. WITH REFERENCE TO TEACH PROBLEM, A FORECAST WAS MADE OF DEVELOPMENT OF THE DIRECTIONS THAT ARE OF THE GREATEST IMPORTANCE TO SOVIET PUBLIC HEALTH.

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PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0137802

ABSTRACT/EXTRACT--SPECIAL ATTENTION WAS DEVOTED TO DEVELOPMENT OF COMPREHENSIVE THEORETICAL MEDICOBIOLOGICAL RESEARCH, SOCIOHYGIENIC ASPECTS OF PROPHYLAXIS AND REHABILITATION, THE SEARCH AND ADOPTION OF NEW METHODS AND MEANS OF PROPHYLAXIS, DIAGNOSIS AND TREATMENT. LIFE WILL MAKE CORRECTIONS IN THESE FORECASTS, NEW DISCOVERIES IN SOME BRANCH OF MEDICINE MAY ALTER THE MAIN DIRECTION, HOWEVER, WHEN PLANNING MEDICAL SCIENCE ON THE NATIONAL LEVEL, IT IS IMPORTANT TO HAVE SOME GENERAL LINES, A COMPLEX PLAN FOR THE SOLUTION OF SCIENTIFIC MEDICAL PROBLEMS IN WHICH THE ROLE PLAYED BY DIFFERENT INSTITUTIONS IS DEFINED.

UNCLASSIFIED

Water Treatment

USSR

UDC 542.48.004

ZHDANOV, G. S.

"An Attempt to Use Electrodialysis Desalination Equipment"

Moscow, Vodostabzheniye i Sanitarnaya Tekhnika, No 6, 1971, pp 22-25

Abstract: Two cases are discussed of the application of electrodialysis equipment for desalination of water. Such equipment is used at the Kazakh railroad system. The apparatus consists of two blocks of electrodialyzers, a hydraulic block, control panel and protective cover for electrodialyzers. The dialyzer blocks consist of 300 alternating cationic and anionic membranes separated by 1 mm polyethylene sheets. Each polyethylene sheet has a labyrinth type cutout for the passage of water. During operation of such equipment the dialyzers become clogged and have to be periodically disassembled and treated with acid to remove the sediment. Some equipment requires this operation to be carried out every 50-60 hrs. On others -- acid wash combined with water rinsers is built into the system, lowering drastically the need for disassembly of the electrodialyzers.

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1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--HIGH TEMPERATURE X RAY STUDY OF THE PEROVSKITE MODIFICATION OF
CDTIO SUB3 -U-
AUTHOR--(03)-LEBEDEV, V.M., VENEVTSEY, YU.N., ZHDANOV, G.S.
COUNTRY OF INFO--USSR
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 377-9
DATE PUBLISHED----- 70
SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY, PHYSICS
TOPIC TAGS--CADMIUM COMPOUND, TITANATE, X RAY STUDY, MINERAL, CURIE POINT,
NIOBIUM OXIDE, HIGH TEMPERATURE EFFECT, ANTIFERROELECTRICITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/0319 STEP NO--UR/0070/70/015/002/0377/0379
CIRC ACCESSION NO--AP0119306

UNCLASSIFIED

2/2 025

UNCLASSIFIED

PROCESSING DATE--23JCT70

CIRC ACCESSION NO--AP0119306

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A HIGH TEMP. (EQUAL TO 1200DEGREES) X RAY DIFFRACTION STUDY OF THE PHASE TRANSITION IN THE PEROVSKITE MODIFICATION OF CDIO SUB3 WAS MADE TO CLARIFY THE CONFLICTING LITERATURE DATA ON THE CURIE TEMP. AND THE TRANSITION FROM THE FERROELEC. TO THE ANTIFERROELEC. STATE. THE TEST SPECIMENS WERE PREPD. BY THE USUAL CERAMIC PROCEDURE BY FIRING TWICE (AT 1050DEGREES AND 1250DEGREES) A STOICHIOMETRIC MIXT. OF PURE GDCO SUB3 AND TIO SUB2 IN A COO ATM. TO PREVENT DECOMP. OF THE CDIO SUB3 FORMED. WITHIN THE TEMP. RANGE STUDIED, THE SUBLATTICE OF CDIO SUB3 SUSTAINED MONOCLINIC DISTORTION. AT ROOM TEMP., THE LATTICE PARAMETERS COINCIDE WITH LITERATURE DATA. WITH INCREASING TEMP., PARAMETERS A EQUALS C, B, AND V PRIMEONETHIRD TEND TO INCREASE AND PARAMETERS BETA AND B-A DECREASE. THE RESULTS CONFIRMED AN EARLIER CONCLUSION THAT CDIO SUB3 HAS A CURIE TEMP. OF EQUIVALENT 960DEGREES AND THAT BELOW THIS TEMP. THE COMPD. IS ANTIFERROELEC. THE CHARACTER OF THE TRANSITION AT THE CURIE POINT IS SIMILAR TO THAT EARLIER REPORTED FOR NANBU SUB3. FACILITY: NAUCH. ISSLED. FIZ. KHIM. INST. IM. KARPOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 537.533.35/536.45

ZHDANOV, G. S., and VERTSNER, V. N.

"High-Temperature Electron Microscopy"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, Vol 36, No 6, 1972, pp 1266-1271

Abstract: The article shows that high-temperature studies can be performed in an electron microscope by using the electron beam of the microscope to heat objects. The specimen support is an apertured disk made of tungsten foil, mounted in a socket covered with a heat-insulating layer of aluminum oxide. The heating of the disk is accomplished by a defocused electron beam, a slight portion of which passes through a hole in the disk and creates an image of the object. The temperature is measured by means of an optical pyrometer, focused on a mirror replacing the intermediate screen of the microscope. The principal difficulty in measuring temperatures above 1000° C is that the temperature is not the same for various sections of the disk due to nonuniformity of the current density. At temperatures ranging from room temperature to 2000° C the temperature measurement error does not exceed several dozen degrees. The maximum heating temperature depends on the properties of the disk material and object and can exceed 3000° C.

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USSR

UDC 621.791.763.1.011

KORZH, V. N., MEDKO, B. V., and ZHDANOV, I. M., Kiev Polytechnic Institute

"The Determination of the Magnitude of the Zone of Plastic Deformations in Spot Welding of Thin-Sheet Constructions"

Kiev, Avtomaticheskaya Svarka, No 1, Jan 72, pp 14-16

Abstract: The effect of the dimensions of welded members of low-carbon steel on the magnitude of the zone of a residual plastic deformations was investigated and a simplified method for its calculation is suggested. The method takes into account the distributions of the temperature from spot heating and of the maximum temperature on the edge of the weldable member, which depends on the section of the member. The results are discussed on the basis of graphs showing the distribution of maximum temperatures on specimens spot welded in their centers under different conditions and the calculated and experimental values of the radius of the zone of residual plastic deformations. Their comparison shows a satisfactory consistency, the average relative magnitude of the error being in the limits of 7-14%. Three illustrations, seven bibliographic references.

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172 028 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--METHOD OF DETERMINING RESIDUAL STRESSES IN THE AXIALLY SYMMETRICAL
HEATING OF THIN PLATES -U-
AUTHOR--(03)-ZHDANOV, I.M., KORZH, V.N., VASILENKO, YU.A.
COUNTRY OF INFO--USSR **Z**
SOURCE--ZAVOD. LAB., 1970, 36, (2), 213-215
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS, MECH., IND., CIVIL AND MARINE ENGR
TOPIC TAGS--THERMAL STRESS, STRESS ANALYSIS, FLAT PLATE, METAL HEATING,
STRAIN GAGE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0307

STEP NO--UR/0032/70/036/002/0213/0215

CIRC ACCESSION NO--AP0129539

UNCLASSIFIED

PROCESSING DATE--27NOV70

UNCLASSIFIED

272 028

CIRC ACCESSION NO--AP0129539

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT. A METHOD OF STUDYING THE RESIDUAL STRESSES IN THIN METAL PLATES AND WELDS ARISING FROM THE AXIALLY SYMMETRICAL HEATING OF THE LATTER IS DESCRIBED. THE METHOD IS BASED ON THE USE OF A SPECIAL ANNULAR RESISTANCE WIRE WHICH RESPONDS DIRECTLY TO THE STRESSES IN THE MATERIAL. THE PROCEDURE TO BE ADOPTED IN CALIBRATING THIS DEVICE IS INDICATED. RESIDUAL STRESSES AT POINTS DEVIATING BY VARIOUS DISTANCES FROM THE HEATING AXIS MAY BE DETERMINED BY DRILLING SMALL HOLES AT THE CORRESPONDING LOCATIONS.

UNCLASSIFIED

Acc. Nr.: AF 0042604

Ref. Code: UR0000

[USSR

UDC 621.395 JPRS 50248

AVAKOV, R. A., ZHDANOV, I. M., PODVIDZ, M. M. and SHILOV, O. S.

"Principles of Telephony and Theory of Telephone Traffic. Text-book for Electrical Engineering Institutes of Communications"

Osnovy telefonii i teorii telefonnykh soobshcheniy. Uchebnik dlya elektrotekhn. in-tov svyazi. (cf English above), Moscow, "Svyaz", 1969. 304 p, ill. 84 k. (from RZh-Elektrosvyaz', No 1, Jan 70, Abstract No 1.64.64K)

Translation: The principles of telephone transmission are considered including telephone apparatus and its elements, switching devices (electromagnetic, relay, electromechanical selectors, crossbar connectors and noncontact switching elements), procedures for an appraisal of the quality of telephone transmission, and calculation of telephone load and losses of messages. The principle of telephone switching are given including the basic structure and group formation of automatic telephone stations of cross-

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bar ten-step, mechanical -- electronic, and electronic systems, and the principles of the structure of urban telephone communication networks. The textbook is designed for students of electrical engineering in higher educational institutions of communications and also for a wide range of specialists in the field of telephony. 139 illustration, 20 tables and 28 references.

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USSR

UDC 621.391.8

SMIRNOV, N.I., ZHDANOV, I.YU.

"Use Of Discrete Technology Elements During Reception Of Quaternary Signals"

Moscow, Elektrosvyaz¹, No 12, Dec 71, pp 62-68

Abstract: In order to confirm the possibility of creating a canonical circuit of a discrete matched filter of E-sequences, a mock-up was assembled using the sequence duration $n = 8$. As elements of the circuit, hybrid microcircuits of Types 27X041 and 1443 were used. A photograph is presented of the upper and lower subsequences E_1 at the input of the discrete matched filter and an oscillograph of the aperiodic functions of autocorrelation of this E-sequence. Various studies were conducted on the mock-up during change of the subpulses T_{sp} in the range from 2 to 200 microsecond, when $T = n \cdot T_{sp} = 8 \cdot 200 \cdot 10^{-6} = 1.6$ millisecond. Analysis of the experimentally obtained aperiodic functions of autocorrelation of various E-sequences showed that in the suggested canonical circuit of a discrete matched filter, the level of the lateral pipe (vybros) of the function of autocorrelation will not exceed several percent which completely agrees with theoretical considerations. Received by editors 25 Feb 71. 4 ref. 5 fig. 3 tab.

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USSR

UDC 621.385.6

ZHDANOV, N.N., STAROSTENKO, V.V.

"Study Of Dispersion And The Amplitude Spectrum Of Space Harmonics Of A Hetero-Resonator Comb Delay System"

Radiotekhnika. Resp. mezhved. temat. nauch.-tekhn.sb (Radio Engineering. Republic Interdepartmental Thematic Scientific-Technical Collection), 1971, Issue 17, pp 22-27 (from RZh--Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3A10)

Translation: The problem of propagation of electromagnetic waves in a hetero-resonator infinitely wide comb is solved by the electrodynamic method. The effect is studied of the geometrical parameters on the dispersion and the amplitude spectrum of space harmonics. It is shown that the greatest affect on the characteristic of the comb proves to be the parameters of the hetero-resonance-ness, the choice of which is very important during construction of microwave electron devices. Summary.

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- 100 -

USSR

UDC 621.372.8.092.22

KATALEVSKIY, V. M., ZHDANOV, N. N., SHADRIN, A. I.

"Study of the Dispersion Properties of some Delay Systems"

Radiotekhnika. Resp. mezhved. nauchno-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1970, vyp. 14, pp 84-90 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4B124)

Translation: The method of equivalent circuits was used to investigate the dispersion relation of complex delay systems. There are 5 illustrations and a 1-entry bibliography.

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1/2 023 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--GRAPHICAL METHOD OF DETERMINING TRUE RUPTURE RESISTANCE -U-
AUTHOR--ZHDANOV, P.L.
COUNTRY OF INFO--USSR
SOURCE--ZAVOD. LAB., 1970, 36, (1), 91-92
DATE PUBLISHED-----70
SUBJECT AREAS--MATERIALS
TOPIC TAGS--GRAPHIC TECHNIQUE, STEEL PROPERTY, RUPTURE STRENGTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0250 STEP NO--UR/0032/70/036/001/0091/0092
CIRC ACCESSION NO--AP0124012
UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0124012

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN INDIRECT GRAPHICAL METHOD OF DETERMINING THE TRUE RUPTURE RESISTANCE OF STEEL AND OTHER METALS PARTS IS DESCRIBED AND ITS EFFICIENCY IS COMPARED WITH CONVENTIONAL TECHNIQUES. ALLOWANCE IS MADE FOR THE FACT THAT THE TRUE RUPTURE RESISTANCE DEPENDS ON THE UNIFORM CONTRACTION OF THE SAMPLE AT A STRESS EQUAL TO THE UTS. THUS THE TRUE RUPTURE RESISTANCE IS DETERMINED MORE ACCURATELY THAN IT CAN BE ON USING CONVENTIONAL FORMULAE NEGLECTING THIS FACT.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

1/2 013

TITLE--SYNTHESIS AND STRUCTURE OF 1,OXOPIPERIDINIUM TRIBROMIDES -U-

AUTHOR--ZHCANOV, R.I., GOLUBEV, V.A., ROZANTSEV, E.G.

CLASSIFIED

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSR, SER. KHIM. 1970, (1), 186-7

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--CHEMICAL SYNTHESIS, BROMINATED ORGANIC COMPOUND, MOLECULAR STRUCTURE, HETEROCYCLIC NITROGEN COMPOUND, THERMAL DECOMPOSITION, UV SPECTRUM, NMR SPECTRUM, BENZENE DERIVATIVE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/1596

STEP NO--UR/0062/70/000/001/0186/0187

CIRC ACCESSION NO--AP0100209

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--11SEP83

CIRC ACCESSION NO--AP0100209

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REACTION OF I (Z EQUALS CH SUB2) IN CCL SUB4 WITH BR WITH DRY ICE COOLING GAVE 99PERCENT RED 2,2,6,6, TETRAMETHYL, 1, OXOPIPERIDINE TRIBROMIDE, DECOMPD. 88.5-9.5DEGREES; I (Z EQUALS CHOH) GAVE 2,2,5,6, TETRAMETHYL, 4, HYDROXY, 1, OXOPIPERIDINE TRIBROMIDE, DECOMPD. 188-90DEGREES; I (Z EQUALS CHOR) GAVE 2,2,6,6, TETRAMETHYL, 4, BROMO, 1, OXOPIPERIDINE TRIBROMIDE, DECOMPD. 106-70DEGREES; I (Z EQUALS CHOBZ) GAVE 2,2,6,6, TETRAMETHYL, 4, BENZYLOXY, 1, OXOPIPERIDINE TRIBROMIDE, DECOMPD. 96-70DEGREES; I (Z EQUALS COI) GAVE 2,2,6,6, TETRAMETHYL, 1, 4, DIOXOPIPERIDINE TRIBROMIDE, VIOLET, DECOMPD. 67-80DEGREES. REACTION OF II WITH BR GAVE BIS(4, (2,2,6,6, TETRAMETHYL, 1, OXOPIPERIDINE TRIBROMIDE)) PHTHALATE, DECOMPD. 43-50DEGREES. UV SPECTRAL CURVES OF TYPICAL PRODUCTS ARE SHOWN. THUS I AND II ARE OXIDIZED BY BR AT LOW TEMP. TO DIAMAGNETIC PRODUCTS WITH 3 BR ATOMS; THE ABOVE STRUCTURES WERE CONFIRMED BY NMR AND IR SPECTRA.

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11SEP70

1/2 022

TITLE--INTERACTION OF IMINOXYL RADICALS WITH CHLORINE -U-

AUTHOR--GOLUBEV, V.A., ZHDANOV, R.I., ROZANTSEV, E.G.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (1), 184-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, ORDNANCE

TOPIC TAGS--IMINE, CHLORINE, HETEROCYCLIC NITROGEN COMPOUND, METHYLENE, THERMAL DECOMPOSITION, EXPLOSIVE, POLYNUCLEAR HYDROCARBON, ORGANIC NITRO COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1994/2665

STEP NO--UR/0062/70/000/001/0134/0135

CIRC ACCESSION NO--AP0200269

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UNCLASSIFIED

2/2 022 UNCLASSIFIED PROCESSING DATE--11SEP70
CIRC ACCESSION NO--AP0200269
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADDING CL WITH DRY ICE COOLING TO
I-IN CCL SUB4 GAVE THE FOLLOWING II (Z SHOWN): CH SUB2 DECOMP. 118,
19DEGREES; CHOBZ, DECOMP. 86 TO 8DEGREES; CHCL, DECOMP. 130-10DEGREES;
C:O, DECOMP. AT ROOM TEMP. EXPLOSIVELY. SIMILARLY WAS PREPD. III,
ORANGE SOLID WHICH SLOWLY DECOMP. AT ROOM TEMP.

LLLLLLLLLLLL

UNCLASSIFIED

-173 012 UNCLASSIFIED PROCESSING DATE--18SEP70
 TITLE--APPARATUS FOR SUPERIMPOSING TRIANGULAR VOLTAGE PULSES ON A DROPPING
 MERCURY ELECTRODE AT A GIVEN MOMENT OF DROP LIFE -U-
 AUTHOR--(05)-LENTSNER, B.I., KHOPIN, A.M., KNOTS, L.L., TSYENTSASHVILI,
V.SH., ZHDANOV, S.I.
 COUNTRY OF INFO--USSR

2

SOURCE--ELEKTROKIMIYA 1970, 6(1), 29-34

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--DROPPING MERCURY, THALLIUM, CADMIUM, ION, ELECTROLYTIC
 REDUCTION, BENZALDEHYDE, POLAROGRAPHIC ANALYZER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1984/1815

STEP NO--UR/0364/70/006/001/0029/0034

CIRC ACCESSION NO--AP0100389

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0100389

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE APP., BASED ON THE POTENTIostat, WAS TESTED BY USING A STD. SOLN. CONTG. TL PRIME POSITIVE AND CD PRIME2 POSITIVE AND FOR THE STUDY OF A NO. OF COMPOS. THE REDN. OF BENZALDEHYDE ON THE DROPPING MERCURY ELECTRODES WAS STUDIED IN A N HClO SUB4 ALC. SOLN. THE ABSENCE OF ANODE PEAKS CORRESPONDING TO OXION. OF THE RADICALS TO THE INITIAL SUBSTANCE ON THE CYCLIC POLAROGRAMS IS ATTRIBUTED TO THE STAGE SUBSEQUENT TO THE ELECTRODE PROCESS PROCEEDING VERY RAPIDLY AND THE OXION. CURRENT OF THE INTERMEDIATE PRODUCT NOT REGISTERING PRIOR TO RATES OF APPLICATION OF THE POTENTIAL IN THE ORDER OF 100 V-SEC.

UNCLASSIFIED

USSR

UDC: 539.292

ZHDANOV, V. A., KONUSOV, V. F., and ZHUKOV, A. V., Institute of Applied Mathematics and Mechanics, Tomsk State University

"Computing the Mechanical Stability of Iron, Molybdenum, and Tungsten Crystal Lattices"

Tomsk, Izvestiya VUZ -- Fizika, No 10, 1972, pp 74-78

Abstract: This paper is one of a series dealing with a method of investigating the behavior of crystal lattices under conditions of arbitrary system voltage, all of which have appeared in the journal named above. The preceding articles of the series are briefly reviewed, and their general purport is summed up in the statement that tangential stresses in which the orthorhombic symmetry of the lattice is preserved are most dangerous for the lattice stability. The tensor equations of state are derived for the class of body-centered cubic lattices, to which iron, molybdenum, and tungsten belong. A table is given of the lattice parameters, involved in these equations, for the three metals, and a second table provides critical stability values for these three metals for the case of shifts preserving the tetragonal symmetry of the crystal lattice. Results of the analysis are also given in the form of curves.

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Dec 72

3

Zhdanov, V. A., and V. F. Komusov.
On the theory of air equation of state
for noble. IN: Izvestiya Akademii Nauk SSSR,
1977-1978, Tomsk. Tomskiy universitet,
1977, 87-102. (RZLKh, 15/72, no. 10R577)

Consideration is given to the general properties of equations of state derived in terms of quasi-harmonic approximations of crystal lattices under the effect of mechanical stresses of an arbitrary type. The influence of lattice symmetry on the form of the equations of state is clarified, as well as that of the binding forces. A study is made of the critical states of crystal lattices prior to mechanical failure. Results of research on a series of specific crystals are discussed.

Malyshov, V. V. Equation of state for uranium hexafluoride over a wide range of state parameters.
Atomnaya energiya, v. 32, no. 4, 1972, 313.

Experimental data on saturated vapor pressure P_v , densities ρ_v and ρ_l of UF₆ vapor and liquid at equilibrium are approximated by the equations

$$\begin{aligned}
 \ln P_v (atm) &= 10.5183 - 2314.4/T - 6.27281/T + & (1) \\
 &+ 1.6217 \cdot 10^{-4}/T^2 \\
 P_v (atm) &= 1.209 - 0.2679/T - 0.02110/T^2 + 6.20028/T^4 & (2) \\
 \rho_v (g/cm^3) &= 1.869 + 0.00100/T + 0.37379/T^2 + 0.000759/T^4 + & (3) \\
 &+ 0.001701/T^3 - 0.0002299/T^5
 \end{aligned}$$

where

$$\theta = (294.5 - T)^{1/2} \tag{4}$$

ZHDANOV V. A.

USSR

UDC 539.1.01

V. A. ZHDANOV, A. V. ZHUKOV, And A. V. POPOV (Scientific Research Institute of Applied Mathematics and Mechanics, Tomsk University)

"The Effect of the First Quantum Correction on the Characteristics of Metallic Sodium (Brief Communication)"

Tomsk, Izvestiya VUZ Fizika (News of the Higher Educational Institutions, Physics), No. 9(112), 1971, pp 126-128

Abstract: The principal characteristics of metallic sodium are determined on an M-20 digital computer, using the nonparametric function of the binding energy and taking the first quantum correction into account. The results of the calculations are compared with experimental data and the Thomas-Fermi-Dirac (TFD) model. Agreement with the experimental data is almost exact for the binding energy, the lattice constant is about 10% below the experimental value, and the modulus of elasticity is about 20% above. Agreement with the TFD model is not as good but improves when the correction is applied.

Further improvement of the statistical approximation can be obtained by higher-order quantum corrections or by refining the model of the metal.

Orig. art. has 1 table and 5 refs.

1/1

USSR

ZHDANOV, V., Academician, USSR Academy of Medical Sciences and Director,
Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Medical
Sciences

"Uncovering the Secrets of Viruses"

Moscow, Vechernyaya Moskva, 10 May 71, p 2

Abstract: This brief article relates the enthusiasm and diligence of Soviet medical scientists in carrying out the decisions of the 24th CPSU Congress, and mentions certain fields in which the Institute of Virology imeni D. I. Ivanovskiy is working, in both practical and theoretical areas. They have been studying viruses which infect people and animals in regions of the USSR not previously investigated, and have already discovered four unspecified previously unknown viruses. They completed a project on preparing production series of diagnostic medicines for practical use ahead of schedule. A number of projects involving study of the molecular biology of the agents of infectious virus diseases in people and animals were also completed ahead of schedule. A new discovery involved learning how viruses multiply in mitochondria, that is, in the intracellular organelles which supply the cell with energy resources. In the clinical division of the Institute, the USSR's first
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USSR

ZHDANOV, V., Vechernyaya Moskva, 10 May 71, p 2

method for diagnosing serum hepatitis has been introduced; it will not only diagnose the disease, but will make it possible to spot chronic carriers of the disease.

2/2

USSR

ZHDANOV, V., Academician, Academy of Medical Sciences USSR

"Virology and Health"

Moscow, Meditsinskaya Gazeta, 20 Apr 71, p 3

Abstract: Research by the author demonstrated that virus-specific functionally active polyribosomes, which ensure synthesis of virus-specific proteins, are formed in the early stages of infection of cells of Erlich ascites carcinoma with Sendai parainfluenza virus. Further research led to the conclusion that primary genetic information in the groups of viruses studied were carried to the sites of protein synthesis by ribonucleoproteins, not by ribonucleic acids. In a study of Venezuelan encephalitis, it was learned that 2-3 hours after infection of chick fibroblasts, replication complexes of two-strand ribonucleic acids were formed. In studying the products of synthesis in sucrose and cesium chloride density gradients, ribonucleoproteins were discovered, one virus-specific and the others hybrids of infectious viral ribonucleic acid and cell proteins. Prospects for the near future include synthesis of certain proteins in cell-free systems on a semi-industrial scale.

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USSR

"For a More Active Attack Against Influenza"

Moscow, Meditsinskaya Gazeta, 27 Jan 70, p 1

Translation: At a meeting of the Committee for the Control of Influenza of the USSR Ministry of Health, Professor V. Zhdanov, Director of the Institute of Virology, USSR Academy of Medical Sciences, delivered a report on the epidemiological situation and forecasting of influenza. According to the data of the All-Union Influenza center, there has been a recent rise in the incidence of this infection. While in December of last year a rise was noted in some cities, for example, Khabarovsk, Yaroslavl' and Arkhangel'sk, at present an increase in influenza has been noted in other areas. Influenza is caused mainly by type A virus and occurs chiefly in moderate form. There are some cases of complications due to influenza pneumonia, otitis, and others). According to the data of Professor Ye. Ketiladze, differential diagnosis under clinical conditions showed that about 30% of the influenza victims suffered from adenovirus infections. This circumstance cannot be disregarded. Not all groups are fully and promptly covered by prophylactic inoculations. Occasionally preregistration of patients is not well organized at some polyclinics. Occasionally other diseases are diagnosed as influenza.

As we know, the chief source of the spread of influenza infection is a

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USSR

Meditsinskaya Gazeta, 27 Jan 70, p 1

sick person. However, this is not realized by all, and influenza victims stay "on their feet", thus infecting those around them. Therapeutic and prophylactic institutions, trade unions and other public organizations should fight against this most vigorously.

As demonstrated by an inspection, there is not a sufficient supply of masks in some polyclinics, and medical personnel do not always use them.

Professor P. Burgasov, deputy USSR Minister of Health, spoke at the session and set forth a number of practical tasks dealing with control of influenza for public health and medical workers.

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USSR

UDC:629.78.002.3

GERASIMENKO, G. I., AKSHENTSEVA, A. P., ZHDANOV, V. D., MAKAROVA, L. S.

"Two-Layer Metal Type 3 Steel Plus N70M27F for Welded Apparatus Used in Highly Corrosive Media"

Sb. Nauch. Tr. Vses. N.-I. i Konstrukt. In-t Khim. Mashinostr. [Collected Scientific Works of All-Union Scientific Research and Design Institute for Chemical Machine Building], 1973, No 6, pp 15-17 (Translated from Referativnyy Zhurnal Raketostroyeniye, No 10, 1973, Abstract No 10.41.156 from the resume)

Translation: A technology is developed for welding and pressure working of a two-layer metal consisting of type 3 steel plus N70M27F, and areas of its application are defined. An optimal heat-treatment mode is recommended and it is shown that heating to 700-850° C for 2-5 hours causes embrittlement of the cladding layer and reduces its corrosion resistance. 4 Figures; 2 Tables.

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USSR

UDC [669.925:621.735]:620.171

MOSKVIN, N. I., ZHDANOV, V. D., and SHUMRATOVA, G. N.

"A New Material for the Construction of Separators Designed for Aggressive Media"

Moscow, Khimicheskoye i Neftyanoye Mashinostroyeniye, No 2, Feb 73, pp 20-21

Abstract: Data are reported on the mechanical and technological properties of large forging pieces made from titanium alloy AT-6, which were to be used in the production of the components of separator drums. The technology of hot treatment (tempering) of large ingots from AT-6 titanium alloy assures the required mechanical properties of the centrifugal separator components. In the range of tempering temperature -- 1150-850 °C -- the technological characteristics of the ingots were found to be adequate. However, to prepare these components from titanium ingots, it was necessary to drop forge the ingots, which improved the reliability and was economically more advantageous.

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USSR

UDC 621.382(047.1)

ZHDANOV, V.I., AKSENOV, A.I., BORISOV, V.A., MITRCFANOV, A.V.

"New Semiconductor Devices For Radioelectronics Apparatus"

Elektron. tekhnika. Nauch.-tekhn. sb. Poluprovodn. pribory (Electronics Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 2(59), pp 11-20 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B9)

Translation: The paper considers the principal characteristics and directions in the development of contemporary discrete semiconductor devices for radioelectronics apparatus for wide-scale application. In the development of power transistors, three principal directions are indicated: (1) Creation of a transistor for increasing the power with a high critical frequency of amplification of the current and small interelectrode capacitances applicable to high-frequency and microwave techniques; (2) Development of a transistor with a large amount of production of the maximum current of the collector at the permissible collector voltage with large power dissipation and a critical frequency of amplification up to 20 MHz, broadening use in amplifier and switching circuits; and (3) Creation of high-voltage transistors necessary for the final stage of the horizontal sweep of television and a number of other circuits. 7 ill. V.K.

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USSR

UDC 612.014.44:612.825.251

BOGOSLOVSKIY, A. I., ZHDANOV, V. K., KOVAL'CHUK, A. G., SEMENOVSKAYA, Ye. N.
and SHAMSHINOVA, A. M., Moscow Scientific Research Institute of Eye Diseases
Izvestiya Helmholtz

"Light-Induced Visual Cortical Potentials in Man"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 3, 1971, pp 721-723

Abstract: In an investigation performed on 49 healthy men and women, evoked potentials were recorded from the visual cortex (one electrode over the area representing the macula lutea and the other electrode 3 cm higher along the median line) while the subjects looked at intermittent flashes of photopic and scotopic light. Averaged EEG records revealed the presence of evoked potentials in response to not only photopic but also scotopic stimuli, although in the latter case the evoked potentials were less numerous and had a different pattern and a longer latent period. Simultaneous auditory stimulation (800 cyc/sec, 85 db) reduced the amplitude of the potentials evoked by scotopic stimuli but did not change the potentials evoked by photopic stimuli. The exact mechanism of action and the significance of the findings remain to be elucidated.

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172 027 UNCLASSIFIED PROCESSING DATE--02OCT70
 TITLE--ON THE MECHANISM OF THE INTRACRANIAL PRESSURE FLUCTUATIONS
 SECONDARY TO STIMULATION OF THE DIENCEPHALON -U-
 AUTHOR--(03)-BUNIN, A.YA., PANTIYELEVA, V.M., ZHDANOV, V.K.
 COUNTRY OF INFO--USSR
 SOURCE--VESTNIK OPTAL'NOLOGII, 1970, NR 2, PP 55-58
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--BRAIN, INTRACRANIAL PRESSURE, DIAGNOSTIC MEDICINE, ELECTRIC
 DISCHARGE, BIOELECTRIC PHENOMENON
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1986/0804 STEP NO--UR/0357/70/000/002/0055/0058
 CIRC ACCESSION NO--AP0102767
 UNCLASSIFIED

2/2 027

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0102767

ABSTRACT/EXTRACT--(U) CP-0- ABSTRACT. A TOTAL OF 330 ELECTRIC STIMULI IN THE HYPOTHALAMUS, DIFFERENT AREAS OF THE BRAIN, BODY AND EXTREMITIES WERE IMPARTED TO 5 RABITS IN 10 TESTS WITH THE AIM OF ELUCIDATING MECHANISMS GOVERNING VARIATIONS IN THE LEVEL OF THE INTRAOCULAR TENSION FOLLOWING STIMULATION OF THE DIENCEPHALON WITH ELECTRIC CURRENT. IN APPLYING STIMULATION A SERIES OF COMPLEMENTARY WAVES, WHICH DEPEND UPON CHANGED BLOOD SUPPLY AND THE TONE OF INTRAOCULAR VESSELS, EMERGED ON THE BASIC WAVES OF THE OPHTHALMOPLETHYSMOGRAM. INVESTIGATIONS SHOWED THAT CHANGES IN THE AMOUNT OF BLOOD FILLING INTRAOCULAR VESSEL IS ONE OF THE PRIME FACTORS CAUSING FLUCTUATIONS OF THE OPHTHALMOTONE IN STIMULATION OF THE DIENCEPHALON. AN IDENTITY OF OPHTHALMOPLETHYSMOGRAPHIC CHANGES OBSERVED IN ELECTRIC STIMULATION OF THE HYPOTHALAMUS AND OTHER PARTS OF THE ANIMAL BODY WAS ASCERTAINED.

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

TITLE--REACTION OF CHLOROMETHYLALKOXY SILANES WITH
N-PHENYLAMINOETHOXY, ALKYL, SILANES -U-
AUTHOR-(03)-ZHDANOV, A.A., PAKHOMOV, V.I., ARKHIPOV, I.A.

COUNTRY OF INFO--USSR

2

SOURCE--IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 392-6

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--ORGANIC SILANE, CHLORINATED ORGANIC COMPOUND, HETEROCYCLIC
BASE COMPOUND, DISTILLATION, AMINE, BENZENE DERIVATIVE, ALKOXIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1765

STEP NO--UR/0062/70/000/002/0392/0396

CIRC ACCESSION NO--APO120472

UNCLASSIFIED

2/2 008
CIRC ACCESSION NO--AP0120472
ABSTRACT/EXTRACT--(U) GP-0-
COLUMN SHOWN ON MICROFICHE.
SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

PROCESSING DATE--30OCT70

ABSTRACT. DISTN. THROUGH A FRACTIONATING
FACILITY: INST. ELEMENTORG.

UNCLASSIFIED

USSR

UDC 576.858:577.23

BUKRENSKAYA, A. G., ZHDANOV, V. M.

Subkletochnyye sistemy v virusologii (Subcellular Systems in Virology), Moscow, Meditsina, 1973, 239 pp, 3,000 copies printed

Abstract

The monograph is devoted to one of the newest and most urgent problems of virology and molecular biology: the use of subcellular systems in virology. Subcellular systems have been used in the comparatively recent past, particularly after the discovery of the mechanisms entailed in the biosynthesis of the basic biological polymers: nucleic acids and proteins. The substantial amount of material on the use of acellular systems that has been amassed up to now in the study of viral biosynthesis is only partially presented in reviews published in various periodicals.

The present book is one of the first attempts to summarize current information on this problem. In addition to data from the literature, the monograph presents vast experimental material obtained by the authors.

The book is intended for readers interested in virology, molecular biology, and the molecular basis of the pathogenesis of infectious diseases.

Foreword

In considerable measure the development of virology has been determined by the methodological potential for the study of virus and viral infections.

USSR

BUKHARSKAYA, A. G., ZHDANOV, V. M., Subkletochnyye sistemy v virusologii, Meditsina, 1973, 239 pp

Following the discovery of the first viral diseases of plants, animals and humans the basic method of studying viruses was the reproduction of viral infections in natural hosts and (for viruses afflicting man) laboratory animals. This method is still important today for the study of the development of infection and immunity in the case of viral diseases and for the study of neoplastic processes caused by viruses. A particular place in virological research methods has been taken up with the application of chick embryos that have proven to be sensitive to many animal viruses and that have been suitable for the accumulation of the virus in quantities sufficient for physico-chemical study.

In the early 1950's, a technique was developed for the growing of single-layer cell cultures and it has become broadly applied in virology in a short space of time. The application of the single-layer cell cultures made it possible to overcome the barrier of insusceptibility of laboratory animals to various species, and resulted in the discovery of a number of new viruses that could not be isolated in laboratory animals. Cell cultures also proved to be suitable for the accumulation of viruses, for the study of the cycle of their reproduction and morphogenesis, and in combination with radioactive isotopes -- for the biochemical study of particulars of metabolic processes in the infected

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USSR

BUKRINSKAYA, A. G., ZHDANOV, V. m., Subkletochnyye sistemy v virusologii, Meditsina, 1973, 239 pp

cell and in the synthesis of viral and virus-specific products. The method of single-layer cell cultures created the possibility for the development of research on the molecular biology of viruses in animals. This research was developed somewhat earlier in the study of bacterial viruses (bacteriophages) since the technique of producing cultures of bacterial populations was elaborated already in the latter part of the last century. At the present time, the corresponding cell cultures are also used for the investigation of viruses of plants and insects.

The development of research on the molecular biology of viruses naturally created the necessity of developing methods for producing subcellular structures and fractions for the study of individual stages of virus-induced synthesis -- the synthesis of viral proteins and viral nucleic acids. Initially these methods were applied for the study of the reproduction of bacteriophages and soon thereafter for the investigation of the viruses of animals and vegetables. The use of subcellular systems made it possible to obtain important information on many links of virus-induced synthesis at the molecular level and of late to reproduce the biosynthesis of viral nucleic acids and of ribonucleoproteins possessing infectious properties outside the cell.

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USSR

EUKRINSKAYA, A. G., Subkletochnyye sistemy v virusologii, Meditsina, 1973,
239 pp

The authors were inspired to write the book owing to the fact that the large amount of factual material that has been accumulated up to now has only in part been summarized in surveys and in individual chapters of monographs and multiple-volume works on virology and molecular biology.

The authors have limited the monograph solely to works concerning the viruses of animals. Materials referring to bacterial viruses are cited only as exceptions.

In the literature devoted to the problem under investigation systems of synthesis of biological macromolecules in subcellular structures and fractions of cells are also not infrequently designated as subcellular, acellular or open systems. We decided to use the first of these designations since it most precisely reflects the substance of the systems in which structures or fractions or derivatives of cells are always used in one degree or another.

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EUKRINSKAYA, A. G., Subkletochnyye sistemy v virusologii, Meditsina, 1973, 239 pp

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USSR

EUKRINSKAYA, A. G., Subkletochnyye sistemy v virusologii, Meditsina, 1973, 239 pp

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BUKRINSKAYA, A. G., Subkletochnyye sistemy v virusologii, Meditsina, 1973, 239 pp

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Microbiology

USSR

UDC 576.858.6.083.35.07

ZHDANOV, V. M., BYKOVSKIY, A. F., AL'TSHEYN, A. D., LOZINSKIY, T. F., URYVAYEV, L. V., VOLKOVA, M. L., YERSHOV, F. I., IL'IN, K. V., BEKTEMIROV, T. A., IRLIN, I. S., MILLER, G. G., ZAKHAROVA, L. G., PEREKREST, V. V., GERASINA, S. F., and SEVAST'YANOVA, M. V., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and the Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Moscow

"Detection of Oncornaviruses in Continuous Tissue Cultures"

Moscow, Voprosy Virusologii, No 4, 1973, pp 411-414

Abstract: Studies were conducted on a number of human and animal continuous tissue cultures maintained in medium 199 containing 10% bovine serum to determine oncornaviruses. Formation of oncornaviruses in the tissue cultures were followed by the appearance of viral particles in the culture fluid labeled with H³-uridine, susceptibility of their synthesis to low actinomycin D concentrations, appearance of these particles following inhibition of nuclear material synthesis by bromodeoxyuridine or mitomycin, presence of reverse transcriptase in these particles, presence of 60-70 S RNA in these particles, and electron microscopy. Of the 26 human lines investigated 14 contained type B oncornavirus, and 4 lines type C virus. Eight of the

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ZHDANOV, V. M., et al., Voprosy Virusologii, No 4, 1973, pp 411-414

14 animal lines studies also showed the presence of oncornaviruses. The source of these viruses in the human lines remains unclear, but the source may have been bovine serum or porcine trypsin used in the preparation of cell suspension. It is noteworthy that type B viruses were isolated in human cultures of epithelial origin, while type C viruses in human cultures of leukotic or sarcomatous origin.

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Molecular Biology

USSR

UDC 578.6

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YERSHOV, F. I., BYKOVSKIY, A. F., ~~DRYVAYEV, L. V.~~, SOKOLOVA, T. M., and ZHDANOV, V. M., Member Academy of Medical Sciences USSR, Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"The Morphology of Hybrid Ribonucleoprotein Complexes (Pseudoviruses)"

Moscow, Doklady Akademii Nauk SSSR, Vol 210, No 5, 1973, pp 1206-1207

Abstract: It was established in earlier work by Yershov et al (DAN SSSR, Vol 189, No 4, 882, 1969) that addition of the infectious RNA of the virus of Venezuelan equine encephalomyelitis to the fraction S 105 of the hyaloplasm of chick embryo fibroblasts results in the formation of hybrid ribonucleoprotein (RNP) complexes (pseudoviruses) that consist of the virus RNA and cell proteins and differ from the virion RNP in regard to their sedimentation distribution and floating density. They are insensitive to the action of antiviral antibodies, but at the same time exhibit infectious activity. In the work reported at present, the morphology of the pseudoviruses in question was studied by electron microscopy. It was established that the optimum ratio for the formation of the RNP complexes was 400 gamma virus RNA to 1.6 mg protein. On purification of the RNP complexes (pseudoviruses) by centrifuging in a 10-30% density gradient of sucrose dissolved 1/2

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YERSHOV, F. I., et al., Doklady Akademii Nauk SSSR, Vol 210, No 5, 1973,
pp 1206-1207

in an isotonic phosphate buffer (0.1 M NaCl, 0.01 M phosphate buffer, pH 7.2) the fraction corresponding to the peak of RNP complexes (80 S) was collected and studied by means of an electron microscope. Centrifuging in a CsCl gradient was also carried out. Threads with a diameter of 25-30 A and bundles of these threads were observed. The hybrid pseudovirus complexes resembled the virus RNP and differed from informophers in size and shape.

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USSR

UDC 576.858.25.083.35.095.383.098.396.332

ZHDANOV, V. M., BOGOMOLOVA, N. N., GAVRILOV, V. I., and ANZHAPARIDZE, O. G.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR,
and Institute of Viral Preparations, Ministry of Public Health USSR, Moscow

"Chronic Infection of Cell Cultures by Tick-Borne Encephalitis Virus:
Description of Ribonucleic Acid

Moscow, Voprosy Virusologii, No 1, 1973, pp 23-27

Abstract: Viral RNA produced in SPEV cells (acute infection) and HEP-2-Scf cells (latent infection) infected by tick-borne encephalitis virus was compared. Viral RNA of both culture types was identical with sedimentation constants ranging from 16S to 26S 1 hour after infection (peak at 20-22S) and 45S 5 hours after infection. The 16S-26S RNA, which was partially resistant to RNA-ase, is considered to be an intermediate form, while the 45S RNA was incorporated into ribonucleoprotein structures. Comparison with data on Venezuelan equine encephalitis virus showed that the studied virus is somewhat larger, with a molecular weight of about 3.2 million daltons.

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UDC 576.858(Koronavirus).037.45

USSR

SHEBOLDOV, A. V., ZAKSTEL'SKAYA, L. Ya., and ZHDANOV, V. M., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Sedimentation and Density Characteristics of Coronavirus"

Moscow, Voprosy Virusologii, No 1, 1973, pp 59-64

Abstract: A method for labeling coronavirus with H^3 -uridine after its intracerebral inoculation into newborn mice followed by purification and concentration of the virus has been developed. High-speed centrifugation of the resulting preparations in a sucrose density gradient and equilibrium centrifugation in a cesium chloride density gradient showed virions of coronavirus strain OC43 to have a sedimentation constant of 280S and a buoyant density of 1.24 gm/ml, while internal ribonucleoprotein had a sedimentation constant of 180S and density 1.31 gm/ml. Virion parameters are more similar to those of arboviruses and myxoviruses and less so to those of paramyxoviruses, while ribonucleoprotein parameters resemble those of the latter. Detergent treatment of the preparations causes them to lose hemagglutinating ability but some infectivity was maintained, probably because the hemagglutinin-containing lipid membrane is destroyed but ribonucleoproteins, which can stimulate infection, remain intact. Virions and subviral structures are unusually fragile and tend to degenerate spontaneously.

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Molecular Biology

USSR

UDC 616.988.25-092.4-07:616-003.939.633.2-092.18-07

ZHDANOV, V. M., GAVRILOV, V. I., KLIMENKO, S. M., BOGOMOLOVA, N. N., and ANDZHAPARIDZE, C. G., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, and Institute of Viral Preparations, Ministry of Public Health USSR, Moscow

"Chronic Infection of Cell Cultures by Tick-Borne Encephalitis Virus: Ribonucleoprotein Structures in Cells"

Moscow, Voprosy Virusologii, No 1, 1973, pp 17-23

Abstract: Labeled RNA precursors were added to HEp-2-Sof cell cultures chronically infected with tick-borne encephalitis virus, in which cellular RNA synthesis was suppressed antibiotically, to determine the location and nature of viral products. Virus-specific ribonucleoprotein was found to concentrate in mitochondrial membrane fractions. Two forms with 160S and 140S sedimentation constants were detected by sucrose gradient analysis. Densities were 1.33 and 1.42 gm/ml respectively in cesium chloride gradients. Electron microscope investigation indicated that the structures were threads 2.4-2.9 microns long, and 50 Å and 30-40 Å wide respectively. Threads of intermediate sizes were also detected. These data suggest that these are viral genomes. It is

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ZHDANOV, V. M., et al., Voprosy Virusologii, No 1, 1973, pp 17-23

concluded that chronically infected host cells inhibit production of mature virions but have less effect on genomes. What supports viral persistence and which structures make possible infection of newly divided cells remains unanswered.

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USSR

UDC 616.988.25-092.4-085.373.3

AZADOVA, N. B., ZHDANOV, V. M., KOPEL'MAN, R. N., and GAVRILOV, V. I., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Virological Characteristics of Infection in the L Cell-Sindbis Virus System in the Presence of Antiviral Serum"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 520-523

Abstract: Persistent infection in the L-SV system (multiplicity of infection 0.01 PFU/cell) in the presence of 0.5% of specific antiviral serum was characterized by alternating phases of degeneration and proliferation during the first three passages, with virus and hemagglutinin present in the culture medium. During the remainder of the 90-day long period of observation, proliferation predominated, the hemagglutinin titer fell to a low level, and the virus was frequently absent. This suggested marked inhibition of virus synthesis. However, immunomorphological investigations revealed active synthesis of two structural proteins of Sindbis virus -- ribonucleoprotein and lipoprotein membrane antigen -- in 70% of the cells. It is concluded that a persistent infection which causes cellular exhaustion does not arrest synthesis of virus proteins but only prevents the viruses from aggregating and leaving the cells. The infection is transmitted from one passage to another by daughter cells

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AZADOVA, N. B., et al., Voprosy Virusologii, No 5, Sep/Oct 72, pp 520-523

which acquire the virus during cell division. It is possible that defective viruses develop during the process, which are able to survive in the cells but unable to leave them.

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USSR

UDC 576.858.75.095.383

ARKHANGEL'SKIY, YE. V., CHEPULIS, G.-K. S., DERKACH, YU. S., KOSYAKOV, P. N.,
and ZHDANOV, V. M., Institute of Virology imeni D. I. Ivanovskiy, Academy of
Medical Sciences USSR, Moscow

"New Evidence that Influenza Virus Can Be Freed of Host Cell Antigens"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 72, pp 586-591

Abstract: AO/PR8 influenza virus always contains host cell antigens. Species-specific chicken antigen is located on the surface of the virus, while Forssman's heterogenous antigen and group specific A antigen are incorporated into deeper structures. By exposing influenza virus -- prepurified through cellulose ion-exchange column chromatography -- to the enzymatic activity of trypsin, the antigens can be removed from the virus, as evidenced by immunochemical and fractional analysis and by radioisotope methods. Influenza virus treated with trypsin preserves its biological properties. However, it no longer exhibits its activity toward tissue antisera and reacts only with virus-specific antisera.

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USSR

UDC 576.858.098.396.332.095.38

URYVAYEV, L. V., SOKOLOVA, T. M., YERSHOV, F. I., and ZHDANOV, V. M.
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR,
Moscow

"A Study of the Phenomenon of Complexing Between Viral RNA and Cell Proteins"
Moscow, Voprosy Virusologii, No 6, Nov/Dec 72, pp 670-676

Abstract: Physicochemical properties of chick embryo fibroblast proteins complexing with Venezuelan equine encephalomyelitis virus RNA were studied. Complexing activity between protein, isolated in a DEAE-cellulose column at pH 6.8 and not sedimenting upon 105,000 g centrifugation, and labeled viral RNA was judged by the degree to which RNA was arrested by a millipore filter. Three classes of proteins (12S, 9S, and 6-4.5S) with differing complexing activity were separated on a sucrose gradient. Ionic strength of the medium apparently has an effect on complexing activity: Increasing the NaCl concentration from 0.01-0.1M to 0.5-1M considerably reduces sorption of viral RNA. It was also shown that RNA sorption decreases as the protein concentration is decreased. Moreover increasing the RNA: protein weight ratio from 1:6 to 1:1.5 caused a drop in ribonucleoprotein sedimentation constant from 55S to 57S. The heavier viral RNA coincided with the peak of maximum infectivity. It is suggested that high ionic strength causes viral RNA to form compact units that

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URYVAYEV, L. V., et al., Voprosy Virusologii, No 6, Nov/Dec 72, pp 670-676

cannot react readily with protein. Though the biological significance of RNA: protein complexing remains unclear, the fact that such complexes arise in isotonic media suggest that such structures exist in infected cells. The relationship between the weight increase of viral RNA and the quantity of protein available suggests that when protein is low in quantity it distributes itself uniformly among all RNA molecules, and RNA sedimentation rate does not increase noticeably.

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Immunology

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USSR

UDC 576.858.25.097.2

URYVAYEV, L. V., CHEPULIS, G.-K., DERKACH, Yu. S., ZHDANOV, V. M., and YERSHOV, F. I., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Protein Components and Antigens of Venezuelan Equine Encephalomyelitis Virus"

Moscow, Voprosy Virusologii, No 5, 1971, pp 586-589

Abstract: The protein composition of highly purified Venezuelan equine encephalomyelitis virus was studied by electrophoresis in polyacrylamide gel and by double diffusion in agar. Both methods revealed the presence in the virus particles of three virus-specific proteins with antigenic properties.

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USSR

UDC 616.988.75-084.47 "1969"

BOBYLEVA, T. K., SLEPUSHKIN, A. N., RUSSINA, A. Ye., VITKINA, B. S., GRINEBERG, I. R., TARASOV, A. A., LIVERGAND, M. I., and ZHDANOV, V. M., Institute of Virology imeni Ivanovskiy, Academy of Sciences USSR, and Smolenskaya Oblast Sanitary Epidemiological Station

"Evaluation of the Efficacy of Mass Vaccinations Against Influenza" Report III

Moscow, Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii No 9, 1971, pp 18-23

Abstract: Double vaccination of approximately 50% of the population of the city of Smolensk with live influenza vaccine in 1968 proved to be effective in controlling the disease even during the 1969 epidemic caused by a new antigenic variant of type A influenza virus. Almost half as many contracted the disease as in the nearby cities of Vitebsk and Kaluga, where the population was not vaccinated -- 28.8, 54.3 and 48.7%, respectively. The difference between the adult sick rates was even greater -- 17.9, 38.1, and 41.2%, respectively. The side effects of the vaccine were minimal. The results of a similar mass vaccination program in Yartsevo were poor mainly because vaccine from the same strain had been used for three successive years and most of the people had become immune to it. Hence the vaccine strains should be changed periodically (once every 2 or 3 years).

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UDC 576.858

USSR

GAYTSKHOKI, V. S., YERSHOV, F. I., KISELEV, O. I., MEN'SHIKH, L. K., ZAYTSEVA, O. V., URYVAYEV, L. V., ZHDANOV, V. M., Member of the Academy of Medical Sciences USSR, and NEYFAKH, S. A., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow, and Institute of Experimental Medicine, Academy of Medical Sciences USSR, Leningrad

"Reconstruction of the Autonomous Genetic and Protein-Synthesizing System from Virus RNA and Isolated Mitochondria"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 1, 1971, pp 220-223

Abstract: In experiments performed on isolated mitochondria of rat liver incubated with H³-RNA obtained from purified Venezuelan equine encephalomyelitis virus, it was demonstrated that the virus RNA enters the mitochondria and is incorporated into their autonomous system of protein synthesis, for which the mitochondria supply the necessary energy. Transcription of the mitochondrial DNA is inhibited, the virus RNA is replicated, and thus virus proteins are synthesized.

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USSR

UDC 576.858.098.396.332.083.1

GAYTSKHOKI, V. S., YERSHOV, F. I., KISELEV, O. I., MEN'SHIKH, L. K., ZAYTSEVA O. V., YRYVAYEV, L. V., ZHDANOV, V. M., and MEYFAKH, S. A., Institute of Experimental Medicine, USSR Academy of Medical Sciences, Leningrad, Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences, Moscow

"Replication of Infectious Viral RNA in Isolated Mitochondria. Report I: Penetration of Viral RNA Into Mitochondria and Its Effect on Mitochondrial Synthesis"

Moscow, Voprosy Virusologii, No 3, May/Jun 71, pp 269-273

Abstract: Isolated rat liver mitochondria were incubated in a medium promoting oxidative phosphorylation and protein and RNA biosynthesis. H^3 -RNA of Venezuelan equine encephalitis virus was added. It was found that after incubation, approximately 72% of the introduced radio-activity was in the mitochondria. It was concluded that the emergence of H^3 -RNA of the virus in the mitochondria is not due to adsorption of RNA on the surface of these structures; instead, the cell fluid and actinomycin D stimulated RNA penetration. The distribution of viral RNA in mitochondrial subfractions was studied. Approximately 64% of the labeled RNA was found in the internal membrane and matrix fraction. Inhibition of RNA synthesis of mitochondrial protein was observed. The fraction of actinomycin-resistant protein synthesis 1/2

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CAYTSKHOKI, V. S., et al., Voprosy Virusologii, No 3, May/Jun 71, pp 269-273

increases sharply. It was concluded that there maybe a link between the restructuring of mitochondrial ribosomes and the synthesis of mitochondrial proteins and virus-specific syntheses.

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USSR

UDC 576.858.75.098.396.332

ZHDANOV, V. M., and AZADOVA, N. B., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR

"Intranuclear Precursors of Sendai Virus Ribonucleoprotein"

Moscow, Voprosy Virusologii, No 5, 1971, pp 606-608

Abstract: The biophysical properties of viral ribonucleoprotein (RNP) were studied in experiments with Sendai virus strain 960 grown in a monolayer culture of fetal pig kidney cells. Infection of cells with the virus resulted in intense synthesis of RNA and protein and in the formation of RNP complexes that were not destroyed by treatment with 0.02 M EDTA. These complexes had a buoyant density of 1.38 and 1.35 g/ml in the nuclei and 1.31 and 1.24 g/ml in the cytoplasm, where they became helical and formed part of the virus particles.

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ZHDANOV, V. M.

ACTIVITY OF VIRAL GENOMES IN ISOLATED MITOCHONDRIA

UDC: 576.858.083.35:576.852.095.57

SPS 05529
28 Mar 72

[Article by V.M. Zhdanov, Institute of Virology Lenin D.I. Kvanovskiy, USSR Academy of Medical Sciences, Moscow; Moscow, Voenik Akademi Meditsinskikh Nauk SSSR, Russian, No. 2, 1972, pp 86-91]

Development of investigations dealing with animal viruses was deter-
mined by introduction of new techniques for isolating and accumulating viruses.
At the early stage of development of virology, laboratory animals were used to
isolate viruses, then chick embryos (Burnet), and, finally, tissue cultures
(Robbins and Enders) including organ cultures (Gyoposum of Organ Culture).
Each of these methods, especially the last one, expanded the opportunities
for isolation and investigation of new viruses, while tissue cultures made
it also possible to study their different reproductive stages.

However, even the last method has its limitations, and they are deter-
mined by the ecological distinctions of viruses as strict intracellular para-
sites. Infiltration of virus infection depends, on the one hand, on the
possibility of penetration of viruses into the cell and, on the other hand,
on liberation of their genetic material from protective protein membranes.
The former condition is determined by the presence in cell membranes of
receptors with which the surface structures of viruses interact. Obviously,
in the course of lengthy evolution, different viruses adapted to interaction
with different types of cells and, for this reason, for example, tobacco
mosaic virus does not normally penetrate into the cells of warm-blooded
animals. The second condition is related to the presence in the cell of
proteolytic enzymes capable of partially or completely digesting the protein
envelopes of the virus and permit their genetic material to function. This
explains why it is possible to induce virus reproduction in cells that are
not sensitive to viruses by administration of viral nucleic acid (Holland
et al.).

But even administration of viral nucleic acids, by far not all of
which have infectious properties, is not always associated with viral
reproduction. The first part of the work was performed jointly with T.I. Tikhonenko, B.A.
Naroditskiy, and A.F. Bogdanov, and the second with G.G. Miller.

USSR

UDC 911.3:616.9/.98

ZHDANOV, V. M.

"Contemporary Problems of Virology in Connection with Questions of Reducing and Eliminating Infectious Diseases"

V sb. Materialy XV Vses. s'ezda epidemiologov, mikrobiologov i infektzionistov, Tezisy Dokl. Ch. 1 (Proceedings of the 15th All-Union Congress of Epidemiologists, Microbiologists, and Infectious Disease Specialists, Theses Reports, Part 1 -- collection of Works), Moscow, 1970, pp 151-153 (from RZh-Meditsinskaya Geografiya, No 2, Feb 71, Abstract No 2.36.204)

[No abstract]

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USSR

ZAYDES, V. M., VOLKOVA, M. YA., BUKRINSKAYA, A. G., and ZHDANOV, V. M.,
Academician, Academy of Medical Sciences USSR, Institute of Virology, Academy
of Medical Sciences USSR, Moscow

"Sedimentation and Density Characteristics of Some Cellular and Virus-Specific
Ribonucleoproteins in Cytoplasmatic Extracts From Chick Embryo Cells Infected
With Newcastle Disease Virus"

Moscow, Doklady Akademii Nauk SSSR, Vol 199, No 1, 1971, pp 219-221

Abstract: Fractionation of a cytoplasmatic extract from chick embryo cells
containing labeled stable cellular RNA (H^3 tagged) and virus-induced RNA
(C^{14} tagged) showed that both labeled compounds sedimented at the same rate
(~ 45 S) and in the same density region (~ 1.46 g/ml). This suggests that
the cellular and virus-specific ribonucleoproteins are physically related.
Such an assumption is consistent with the results of N. V. Kaverin's func-
tional analysis of the viral component of the hypothetical complex, which
indicate that virus-induced RNA can be transported from the 45 S structures
to polyribosomes. This complex is regarded as the initiator of viral protein
synthesis.

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USSR

UDC 576.858.75.098.396.332

VLADIMIRTSEVA, Ye. A., BURKINSKAYA, A. G., and ZHDANOV, V. M., Institute of Virology imeni D. I. Ivanovskiy, USSR Academy of Sciences, Moscow

"Replicative Complexes of Sendai Virus"

Moscow, Voprosy Virusologii, No 4, Jul/Aug 71, pp 402-406

Abstract: This study was performed to verify the hypothesis that Sendai virus has two replicative complexes: one operating in the nucleolus and synthesizing viral RNA, and the other operating in cytoplasm and synthesizing complementary RNA threads. The tests were performed with Sendai virus strain No 960, which was incubated with Erlich ascites carcinoma cells to which radioactive precursors of RNA were added. Subsequent analysis revealed that the nuclear fraction as well as the cytoplasmic fraction contained both types of RNA, suggesting that the replicative complexes were located in both parts of the cell. It was concluded that additional tests must be performed by different methods in order to resolve this problem conclusively.

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USSR

UDC 576.858.43

BEHEZINA, O. N., SKLYANSKAYA, Ye. I., KOZLOVA, I. A., ~~PETERSON, O. P.~~, and ZHDANOV, V. M., Academician, Academy of Medical Sciences USSR

"Electrophoretic Separation of the Principal Proteins from Cells Infected with Different Viruses"

Moscow, Doklady AN SSSR, Vol 190, No 5, 1970, pp 1225-1228

Abstract: Changes in the synthesis of total histones and their fractions in nuclei of infected cells and in desoxyribonucleic acid complex were studied. The dynamics of accumulation and of changes in principal cytoplasm protein was studied also. One hour after infection the number of protein bands increases, most with moderate electrophoretic mobility. After 3 hrs, additional slow-moving bands appear, and this increase continues for 5 hrs. After 7 hrs, the protein bands begin to disappear, but various minor bands appear. Analogous results were observed 24 hrs after infection with pox vaccine, some increase with influenza virus, and no change in protein bands with Herpes virus. After 48 hrs, no increase in the protein bands was noted. The results obtained correspond to the dynamics of accumulation of viruses in chick embryo tissue. Four histone fractions were isolated from infected tissues: lysine-rich histones - f_1 , relatively lysine-rich fractions f_{2a} and f_{2b} , and a fraction rich in arginine - f_3 . Electrophoretic analysis of individual fractions showed that a continuous disappearance of lysine-rich fraction

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BEREZINA, O. N., et al., Doklady AN SSSR, Vol 190, No 5, 1970, pp 1225-1228

(f_1) occurs in cells infected with the pox virus and influenza vaccine, while in fractions f_{2a} and f_{2b} , additional principal and minor bands appear. The arginine-rich fraction in the infected material does not differ from that in controls.

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UDC 576.311.1

URYBAYEV, L. V., DERKACH, YU. S., ZHDANOV, V. M., and YERSHOV, F. I.,
Institute of Virology imeni D. I. ~~Ivanovskiy~~, Academy of Medical Sciences USSR

"Structural Proteins of Venezuelan Equine Encephalomyelitis Virus"

Moscow, Biokhimiya, No 1, 1971, pp 92-96

Abstract: Polyacrylamide gel electrophoresis revealed that highly purified VEE virus contains three main proteins. The ribonucleoprotein fraction isolated by centrifuging virus destroyed by tween and ether in a performed cesium chloride density gradient (1.43 g/cm^3) contained a protein with a molecular weight of 59,000 to 61,000. The more mobile hemagglutinin protein had a molecular weight of 34,000 to 38,000. The fraction which may represent basal membrane protein had a molecular weight of 15,000 to 18,000.

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USSR

UDC 576.858.5.095.6

ZHDANOV, V. M. and BUKRINSKAYA, A. G.

Reproduktsiya Miksovirusov, Virusov Grippa i Skhodnykh s Nimi, (Reproduction of Myxoviruses. Influenza and Influenza-Like Viruses)

Moscow, "Meditsina", 280 pp

Translation: Annotation: Achievements in molecular biology have spurred the rapid development of general virology, the most urgent problem of which is the study of intracellular replication of viruses. Among the RNA-containing viruses, replication of myxoviruses is least explored and therefore has become the object of intense investigation in recent years. As a result, numerous formerly unclear questions have been explained. In addition, problems demanding further work have arisen. The book presents modern concepts of the mechanism of myxovirus replication. Two introductory chapters of the book deal with problems of myxovirus classification, a brief background treatment of myxoviruses, their structure, composition, and physicochemical properties. A section on inhibitors of nucleic and protein metabolism supplements the presentation of the main material in the book, which is taken up in the following order.

1. Adsorption of viruses on cell surfaces.

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ZHDANOV, V. M., et al, "Meditsina", 280 pp

2. Penetration of virus particles into cells.
3. Deproteinization of virus particles; release of viral nucleic acid and its transport to the site of replication of viral RNA
4. Preparatory (early) virus-induced syntheses.
5. Synthesis of viral nucleic acid.
6. Synthesis of structural proteins.
7. Formation of mature virus particles and their exit from cells.

Because the subject literature contains no generalizations of accumulated material on myxovirus replication, the book will be of interest for virologists working in this field.

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ZHDANOV, V. M., et al, "Meditsina", 280 pp

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USSR

UDC 576.858.75.098.036.332

ZHDANOV, V. M., BUKRINSKAYA, A. G., AND SITO, A. F., Institute of Virology
imeni D. I. Ivanovskiy, USSR Academy of Medical Sciences, Moscow

"Characteristics of Sendai Virus RNA as Studied in Polyacrylamide Gels"

Moscow, Voprosy Virusologii, No 1, Jan/Feb 71, pp 77-81

Abstract: Viral and virus-induced RNA of Sendai virus (strain No 960) was studied by electrophoresis in polyacrylamide gels. Labeling with H^3 - or C^{14} -uridine was used to evaluate the molecular weights of various RNA forms. Close to 10 RNA forms (molecular weights ranging from 170,000 to 12,000,000) were discovered in cells which had been infected by Sendai virus. Among these were a newly formed viral RNA, a replicative form, a replicative intermediate form as well as RNA (molecular weight of the order of 8,500,000) occupying an intermediate position between the viral and the replicative form. Several RNAs with molecular weights below that of viral RNA were found. It is pointed out that some of the gel fractions reported may consist of impure materials or of degradation products.

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USSR

UDC 576.858.5.097.2.077.3

CHEPULIS, G.-K. S., ZHDANOV, V. M., NAS, I., CHERBA, I., and ROZHA, K.,
Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences
USSR, Moscow, Institute of Microbiology, Medical University, Hungarian
People's Republic, Budapest, and Microbiological Scientific Research Group,
Academy of Sciences Hungarian People's Republic

"Detection of Cellular Antigens in Myxoviruses and Paramyxoviruses by the
Immunodiffusion Method"

Moscow, Voprosy Virusologii, No 1, Jan/Feb '71, pp 62-70

Abstract: Several types of immunodiffusion methods which so far had been
used only in the study of adenoviruses, plant viruses, and a few other
viruses were used to study the antigenic composition of myxoviruses and
paramyxoviruses. The methods used were double gel diffusion, immuno-
electrophoresis, and immuno-osmophoresis. The viruses included in the study
were Group A Hong Kong influenza virus, fowl plague virus (strain Weybridge),
Group A influenza virus (strain WSN) and A₁ virus (strain England/64 and
Hong Kong/68) and Newcastle disease virus (strain Tomlinskiy and Hertford-
shire) and Sendai virus (strain No 960). The viruses were cultured on chick
embryo cultures and primary cultures of chick fibroblasts. The viruses were
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USSR

CHEPULIS, G. -K., et al., Voprosy Virusologii, No 1, Jan/Feb 71, pp 62-70

purified by column chromatography with a special cellulose fiber material, and concentrated by dialysis of purified preparations against polyethylene glycol of molecular weight 6,000. S^m and V^m antigens were obtained by washing the virus preparations with ether. Virus antigens were separated by adsorption and elution. Virus-specific antigens were detected and also several cellular antigens included in the composition of virus particles. Three of these cellular antigens were identified as group A, species-specific, and Forsman antigens. It was established that the cellular antigens are located not only at the surface of the virus particles, but also in the deeper structures of the virus particles. Also, experimental data indicate that cellular antigens are not simply mechanically admixed impurities; rather, they are essential components of the virus particles.

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1/2 021
 TITLE--ELECTROPHORETIC SEPARATION OF BASIC PROTEINS OF CELLS INFECTED WITH
 DIFFERENT VIRUSES -U
 AUTHOR--(05)-BEREZINA, D.N., SKLYANSKAYA, YE.I., KOZLOVA, I.A., PETERSON,
 O.P., ZHDANOV, V.M.
 COUNTRY OF INFO--USSR
 SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(5), 1225-8 VIROL
 DATE PUBLISHED-----70
 SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
 TOPIC TAGS--ELECTROPHORESIS, SMALLPOX, VACCINE, INFLUENZA VIRUS, HERPES
 SIMPLEX VIRUS, TISSUE CULTURE, PROTEIN
 CONTROL MARKING--NO RESTRICTIONS
 DOCUMENT CLASS--UNCLASSIFIED
 PROXY REEL/FRAE--1999/0704
 STEP NO--UR/0020/70/190/005/1225/1228
 CIRC ACCESSION NO--AT0122790
 UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0122790

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELECTROPHORESIS IN POLYACRYLAMIDE GEL WAS USED TO FRACTIONATE CHICK FIBROBLAST CULTURES GROWN ON MATRICES WITH ADDN. OF BULL SERA OR ON TISSUES FROM 11 DAY CHICK EMBRYOS. THE INFECTION WAS INTRODUCED INTO ALLANTOIDAL SPACE AND EMPLOYED THE VIRUS MATERIAL OF SMALLPOX VACCINE, INFLUENZA, OR HERPES. THE TYPICAL ELECTROPHOREGRAMS WERE SHOWN FOR THE TREATED CULTURES; THE CHANGES IN THE ACCUMULATION OF BASIC PROTEINS VARY WITH DURATION OF THE EXPT. WITHIN 1 HR OF INFECTION TO NO. OF SEPD. PROTEINS INCREASES MAINLY IN THE GROUP OF MEDIUM ELECTROPHORETIC MOBILITY; WITHIN 3 HR, PROTEINS WITH SLOW MOBILITY APPEAR AND BY 5 HR THE BASIC PROTEIN FRACTIONS EXCEED THOSE OF THE CONTROLS BY A FACTOR OF 4 OR MORE; BY 709 HR THE NO. OF DISTINCT PROTEIN ZONES DECLINES, BUT MINOR ZONES APPEAR AT THE SAME TIME. THE INCREASED TOTAL AMOUNT OF BASIC PROTEINS IS CAUSED BY INCREASED FRACTIONS OF HISTONES WITH MODERATE LEVELS OF LYSINE; IT IS PROBABLY THIS PROTEIN FRACTION THAT IS CONNECTED WITH THE INHIBITING ACTIVITY OF BASIC CYTOPLASM PROTEINS.

UNCLASSIFIED

UDC 576.858

USSR

ZHDANOV, V. M., Academician, Academy of Medical Sciences USSR, YERSHOV, F. I.,
and URIYVAYEV, L. V., Institute of Virology imeni D. I. Ivanovskiy, Academy of
Medical Sciences USSR, Moscow

"Formation of 'Pseudoviral' Particles in Homogenate Obtained from Non-Infected
Cells."

Moscow, Doklady Akademii Nauk SSSR, Vol 189, No 4, pp 882-884.

Abstract: RNA obtained from equine encephalomyelitis virus was added to fractions of homogenate obtained from chick embryo fibroblasts. Preparations were incubated at 37°C. Samples taken at hourly intervals were studied and titrated for infectiousness. After addition to the non-infected homogenate, the viral RNA undergoes a transformation. It envelops itself in protein of the normal chicken cell. It becomes a "pseudovirus" in changed clothing, capable of infectious processes and plaque formation, with only one difference from the mature virus. The mature virus is insensitive to RNA ace, whereas the "pseudovirus" is only partially insensitive to this enzyme. The new "chicken clothing" has given it some degree of protection against antiviral actions.

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UDC 576.858.25

USSR

URYVAYEV, L. V., ZHDANOV, V. M., YERSHOV, F. I., CHERNETSOV, Yu. V., and BUKOVSKIY, A. F., Institute of Virology imeni D. I. Ivanovskiy, Academy of Medical Sciences

"Sedimentation Characteristics of Venezuelan Equine Encephalomyelitis (VEE) Virus"

Moscow, *Voprosy Virusologii*, No 3, May/Jun 70, pp 330-336

Abstract: VEE virus was cultured in chick embryo fibroblasts, concentrated and purified. The optimum method for obtaining biologically active virus components consisted of destroying the virus with ether and Tween. Purified VEE virus sedimented at about 380 S in sucrose gradients, the nuclei at about 160 S. Centrifugation in CaCl₂ gradients showed that VEE infectious material bands in two main positions: most of the virus banded at 1.25 g/ml, and a smaller amount at 1.42 g/ml. The main peak of hemagglutinins was detected at a buoyant density of 1.25 g/ml.

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USSR

UDC 578.083

ZHDANOV, V. M., Academician, Academy of Medical Sciences USSR, SITO, A. F., and
DERKACH, Yu. S., Institute of Virology imeni D. I. Ivanovskiy, Academy of
Sciences USSR, Moscow

"Identification of the Information RNA of Newcastle Disease Virus"

Moscow, Doklady Akademii Nauk SSSR, Vol 193, No 1, Jul/Aug 70, pp 211-214

Abstract: The specificity of virus-induced RNA was studied, using chicken fibroblasts which were incubated to determine the content of 18 S-RNA. A portion of this preparation was infected with Newcastle disease virus and subsequently treated to remove the virus and isolate the RNA in its pure form (18 S-RNA). The portions of 18 S-RNA obtained from noninfected and infected cultures were incubated in a protein-rich medium; 18 S-RNA from infected cultures induced protein synthesis more intensely than that from noninfected cultures. Subjecting both specimens to various scientific tests showed that the RNA isolated from the infected portion had a specific effect on the formation of its products, leading to the conclusion that it is the information RNA in the synthesis of ribonucleoproteins (S-antigen).

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USSR

UDC 576.858.25.098.396.332:576.858.25.097.21

YERSHOV, F. I., URYVAYEV, L. V., and ZHDANOV, V. M., Institute of Virology imeni
D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Synthesis of Infectious Ribonucleoprotein of Arboviruses in Subcellular Structures"

Moscow, Voprosy Virusologii, No 3, May/June 70, pp 322-330

Abstract: A mitochondrial-microsomal (MM) fraction isolated from chick fibroblasts infected with Venezuelan equine encephalomyelitis virus (VEE) and incubated in medium 199 ensures extracellular synthesis of virus-specific RNA and protein and the formation of ribonucleoprotein complexes (RNP). These complexes possess infectious activity, which increases 80-100-fold in 3-4 hours of incubation. The RNP complexes contain the infectious RNA, which may be associated both with the virus-specific and the cellular proteins. The main part of the infectious RNA is formed extracellularly and not because of completion of the templates derived from cells together with the MM fraction.

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UDC 576.858.25.095.383.098

USSR

ZHDANOV, V. M., YERSHOV, F. I., and URYVAYEV, L. V., Institute of Virology
imeni D. I. Ivanovskiy, Academy of Medical Sciences USSR, Moscow

"Virus-Like Particles Formed in vivo and in vitro"

Moscow, Voprosy Virusologii, No 5, Sep/Oct 70, pp 537-543

Abstract: It was shown that ribonucleoprotein complexes capable of producing infections and typical plaques in agar were formed in the mitochondrial fraction isolated from cells infected with Venezuelan equine encephalomyelitis (VEE) virus during incubation in proper media. Sedimentation constants of these complexes in a linear sucrose gradient ranged from 80S and 160S. Their buoyant density in Cs gradient varied from 1.30 to 1.42 g/cm³. Virus-like particles ("pseudoviruses") with similar characteristics were found after addition of the infectious RNA of VEE virus to homogenate of uninfected cells. These particles were partially resistant to ribonuclease and could not be neutralized by virus-specific sera. It is proposed that the formation of virus-like particles in vivo and in vitro is based on some complexing between viral RNA and cell proteins, in which case it is possible that formation of informosome-type structures may occur.

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1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--REPLICATIVE FORMS OF SENDAI VIRUS RNA -U-
AUTHOR--(02)-ZHDANOV, V.M., BURKRINSKAYA, A.G.
COUNTRY OF INFO--USSR
SOURCE--ARCH. GESAMTE VIRUSFORSCH. 1970, 29(2-3), 241-52
DATE PUBLISHED-----70



SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--VIRUS DISEASE, RNA, SEDIMENTATION, CELL PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/2019 STEP NO--AU/0000/70/029/02-/0241/0252

CIRC ACCESSION NO--AP0137194

UNCLASSIFIED

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CIRC ACCESSION NO--AP0137194

UNCLASSIFIED

PROCESSING DATE--04DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF REPLICATIVE FORMS (RF) OF SENDAI VIRUS RNA IN VIRUS INFECTED CELLS WAS STUDIED. SEVERAL RNA SPECIES WITH SEDIMENTATION COEFF. OF 7 S TO 48 S WERE REVEALED IN THE COURSE OF INFECTION, AND A CERTAIN SEQUENCE IN THEIR APPEARANCE WAS OBSD. RF OF SENDAI VIRUS RNA WERE FOUND AS MULTISTRANDED REPLICATIVE INTERMEDIATES (RI) WITH SEDIMENTATION COEFF. RANGING FROM 20 S TO 30 S, AND AS DOUBLE STRANDED RF WITH A SEDIMENTATION COEFF. OF ABOUT 22-23 S. PARENTAL RNA WAS FOUND IN THE INTRANUCLEAR STRUCTURES AND IN THE CYTOPLASM. PARTICIPATION OF PARENTAL RNA IN THE FORMATION OF DOUBLE STRANDED RF WAS EVIDENCED. FACILITY: D. I. IVANOVSKII INST. VIROL., MOSCOW, USSR.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SYNTHESIS OF INFECTIOUS RIBONUCLEOPROTEIN OF ARBOVIRUS IN
SUBCELLULAR STRUCTURES -U-
AUTHOR-(03)-YERSHOV, F.I., URYVAYEV, L.V., ZHDANOV, V.M.
COUNTRY OF INFO--USSR
SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 3, PP 322-330
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--ARBOVIRUS, VENEZUELAN EQUINE ENCEPHALITIS VIRUS, RNA, CULTURE
MEDIUM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1847 STEP NO--UR/0402/70/000/003/0322/0330
CIRC ACCESSION NO--AP0125458
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125458

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MITOCHONDRIAL MICROSOMAL (MM) FRACTION ISOLATED FROM CHICK FIBROBLASTS INFECTED WITH VENEZUELAN EQUINE ENCEPHALOMYELITIS VIRUS (VEE) AND INCUBATED IN MEDIUM 199 INSURES EXTRACELLULAR SYNTHESIS OF VIRUS SPECIFIC RNA AND PROTEINS AND FORMATION OF RIBONUCLEOPROTEIN (RNP) COMPLEXES. THESE COMPLEXES POSSESS INFECTIOUS ACTIVITY WHICH INCREASES 80-100 FOLD IN 3-4 HOURS OF INCUBATION. THE RNP COMPLEXES CONTAIN INFECTIOUS RNA WHICH MAY BE ASSOCIATED BOTH WITH VIRUSSPECIFIC AND CELLULAR PROTEINS. THE MAIN PART OF THE INFECTIOUS RNA IS FORMED EXTRACELLULARLY AND NOT AT THE EXPENSE OF COMPLETION OF TEMPLATES DERIVED FROM THE CELLS TOGETHER WITH MM FRACTION. FACILITY: INSTITUT VIRUSOLOGII IMENI D. I. IVANOVSKOGO AMN SSSR, MOSKVA.

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