USSR

sections. The authors give primary attention to discussion of
the physical essence of the investigated problems without the
use of many mathematical formulas and details which can be found
in the originals.

From the survey it is concluded that experiments with individual
particles have permitted deeper penetration into the picture of
quasiperiodic motion in classical mechanics and research using
plasma has demonstrated that the dynamics of a collective of
charged particles is determined not so much by pair collisions
as by remote interactions connected with excitation of epithermal
electric and magnetic fields -- that is, plasma instabilities.
Investigations of the properties of an adiabatically confined
plasma have revealed a series of collective effects connected
with so-called kinetic instabilities; their study is continuing
to the present time. It is noted that certain authors are highly
optimistic and others are skeptical regarding whether adiabatic
traps can lead to the creation of a thermonuclear reactor as was
initially proposed by Budker and Post. Even with complete
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USSR

IOFFE, M. S., et al, Uspekhi Fizicheskikh Nauk, Vol 100, No 4,
April 1970, pp 601-640

absence of plasma instabilities and energy losses connected with
them in open traps, there is a highly significant portion of
losses which cannot be eliminated in the form of particle flux
into the "forbidden" cone as a result of Coulomb scattering.
With optimal plasma parameters from the point of view of energy
balance, the time of holding the ions in the trap T_k turns out
to be appreciably less than the ion lifetime before the nuclear
reaction $T_{reaction}$, and only an insignificant portion of the
injected particles on the order of 10^{-2} succeed in reacting in
the time T_k. As a result, the condition of achieving a positive
energy yield is very sensitive to the true magnitude of T_k. In
view of the complexity and abundance of factors affecting the
magnitude of the Coulomb losses, it can hardly be hoped that T_k
can be successfully calculated with significantly greater accuracy.
Therefore, an experiment should be carried out with plasma para-
meters approaching thermonuclear to the maximum. Many years of
research in plasma instabilities and the discovery of conditions
of their development will permit stabilization means to be found.
Thus, it is concluded that the study of the behavior of plasma in
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IOFFE, M. S., et al, Uspekhi Fizicheskikh Nauk, Vol 100, No 4,
April 1970, pp 601-640

adiabatic traps is not only expedient from the purely theoretical
point of view but it is also completely justifiable from the
point of view of possible prospects of creating a controlled
thermonuclear reactor.

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- 100 -

KADOMTSEV, B.

201R5435/3

Wednesday, March 22, 1972

IMPORTANT CONTRIBUTION TO ATOMIC PHYSICS

Academician B.Kadomtsev and Professor
S.Ivanov

AP0037716

PRIMARY SOURCE: FBIS Daily Report, Soviet Union, 6 March 1970, Vol III, Nr 45,
                  p D 1

USSR

MODEL OF UNSTABLE PLASMA--Moscow March 3 TASS--Discoveries by Soviet scientists Yuri
Ivanov, ████████████ Arthur Nedospasov, and Solomon Ryukin make it possible to
simulate and study unstable plasma of thermonuclear processes. Today, the Soviet
Committee for Inventions and Discoveries entered this discovery in its register.'
Experimenting with samples of germanium semiconductor, the authors discovered a
phenomenon called screw-type plasma instability and explained it. A possibility
appeared to substitute huge and very expensive installations, simulating plasma
of thermonuclear synthesis by simple samples of the semiconductor and to test on
them different methods of dampening of plasma instability. The discovery also made
it possible to design a series of original instruments in which the instability
is used for the generation and intensification of electric oscillations. (Moscow
TASS International English 2135 GMT 3 Mar 70 L)

19730695

1/2   025

TITLE--FINITE AMPLITUDE HELICONS -U-   UNCLASSIFIED   PROCESSING DATE--20NOV70

AUTHOR-(02)-IGITKHANOV, YU.L., KADOMTSEV, B.B.

CCUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
NR 6, PP 2147-2145
DATE PUBLISHEC------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--OSCILLATION, ELECTRON SHELL STRUCTURE, ELECTRIC CONDUCTOR,
MAGNETIC FIELD

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1704
                                    STEP NO--UR/0056/70/058/006/2147/2153
CIRC ACCESSICN NG--AP0120416
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0120416   UNCLASSIFIED   PROCESSING DATE--20NOV70
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   INERTIALESS SPIRAL SYMMETRY
   OSCILLATIONS OF THE ELECTRONS OF A CONDUCTOR OR PLASMA IN A MAGNETIC
   FIELD WITH AN ARBITRARY AMPLITUDE ARE CONSIDERED.   IT IS SHOWN THAT
   ORDINARY HELICONS ARE A PARTICULAR CASE OF SOLUTIONS WITH A FREQUENCY
   WHICH IS INDEPENDENT OF THE AMPLITUDE.

UNCLASSIFIED

USSR

IGITKHANOV, YU. L., KADOMTSEV, B. B.

"Helicons of Finite Amplitude"

Abstract: The propagation of slow electromagnetic standing
periodic waves with helical symmetry in a magnetized plasma or
solid conductor in an external magnetic field is considered.
Waves of finite amplitude are considered because they are of
more practical interest. It is shown that the problem of find-
ing all possible waves of finite amplitude with helical symmetry
reduces to the solution of a single second-order, nonlinear
differential equation. This equation possesses a class of solu-
tions which are formally of the linear type. These solutions
have the feature that their frequency is independent of the
amplitude when the amplitude is finite. Ordinary helicons, in-
cluding those propagating at an angle to the magnetic field, be-
long to this class of solutions. In the homogeneous case helicons
exhibit considerable damping independent of the collision fre-
quency due to dissipation of the surface current. Under certain
1/2

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USSR

IGITKHANOV, YU. L., et al, Zhurnal Eksperimental'noy i
Teoreticheskoy Fiziki, Vol 58, No 6, June 1970, pp 2147-2153

conditions densities can be achieved such that helicons of small
amplitude are localized as to radius and do not exhibit strong
damping due to surface currents; these solutions do not belong
to the class of waves with a frequency independent of the
amplitude.

2/2

Fluid Dynamics

USSR   UDC 533.95

KADOMTSEV, B. B., Corresponding Member of the Academy of Sciences, USSR, PETVIASHVILI, V. I.

"On the Stability of Isolated Waves in Weakly Dispersing Media"

Moscow, Doklady Akademii Nauk SSSR, Vol 192, No 4, 1 Jun 1970, pp 753-756

Abstract: Special solutions of the equation
$$\partial u/\partial t + u\,\partial u/\partial x + \partial^3 u/\partial x^3 = 0 \qquad (1)$$
describing a broad class of one-dimensional nonlinear waves in media with weak dispersion (for example, waves on shallow water, ionic-sonic and magnetosonic waves in a plasma, etc.) are discussed which are of the isolated wave or soliton type:
$$u = u_0(x, t) = af\{\sqrt{a}(x - x_0)\} \qquad (2)$$
where a is the wave amplitude, x = at is its phase, and the function $f(\xi)$ satisfying the equations from (1)
$$-f' + ff' + f''' = 0; \quad -f + \tfrac{1}{2}f^2 + f'' = 0 \qquad (3)$$

1/2

USSR

is equal to

$$f(\xi) = 3(\operatorname{ch} \xi/2)^{-2}. \tag{4}$$

A soliton consists of a one-dimensional nonlinear wave and is a fully stable formation under the assumption of one-dimensionality. The question of whether a soliton is stable under slight curvature, when its amplitude a and phase x_0 are slowly varying functions of the y-coordinate laid off crosswise to the propagation of the soliton, is investigated. It is shown that in the case of negative dispersion (for example, for waves on shallow water) "bending" of the soliton leads to elastic oscillations with weak damping. In the case of positive dispersion the soliton is unstable with respect to two-dimensional perturbations such as bending, and it is doubtful that it can exist for a long time. If the nonlinear term in equation (1) has a negative sign, the situation is the reverse: solitons are stable in the case of positive dispersion and unstable in the case of negative dispersion.

2/2

TITLE--PLASMA CONTAINMENT IN ADIABATIC TRAPS -U-

AUTHOR-(02)-IOFFE, M.S., KADOMTSEV, B.B.

CCUNTRY OF INFO--USSR

SOURCE--USPEKHI FIZICHESKIKH NAUK, VOL. 100, APR. 1970, P. 601-639

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS, ATMOSPHERIC SCIENCES

TOPIC TAGS--MAGNETIC TRAP, MAGNETIC TRAPPING, PLASMA PHYSICS, PLASMA
   DYNAMICS, COULOMB COLLISION, PLASMA INSTABILITY, ELECTROSTATIC
   ACCELERATOR, CYCLOTRON, CONE SHELL, ELECTRON PLASMA, MASER, VAN ALLEN
   BELT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/2294   STEP NO--UR/0053/70/100/000/0601/0639

CIRC ACCESSION NO--AP0127645
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0127645

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. REVIEW OF PUBLISHED STUDIES
  CONCERNING COLLECTIVE PROCESSES IN PLASMAS CONFINED IN ADIABATIC
  MAGNETIC TRAPS. AMONG THE TOPICS COVERED ARE CONTAINMENT OF INDIVIDUAL
  PLASMA PARTICLES, COULOMB COLLISIONS, FLUTE INSTABILITY AND ITS
  STABILIZATION, PLASMA KINETIC INSTABILITIES, ELECTROSTATIC CYCLOTRON
  INSTABILITY, CONE AND CONE DRIFT INSTABILITIES, NEGATIVE MASS
  INSTABILITY, AND HOT ELECTRON PLASMA INSTABILITIES. ALSO CONSIDERED ARE
  CYCLOTRON RESONANCE MASERS AND THE VAN ALLEN RADIATION BELTS.
  FACILITY: AKADEMIIA NAUK SSSR, INSTITUT ATOMNOI ENERGII, MOSCOW, USSR.

UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--27NOV70

1/2   029
TITLE--HEAVY ATOM IN AN ULTRASTRONG MAGNETIC FIELD -U-

AUTHOR--KADOMTSEV, B.B.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,
   NR 5, PP 1765-1769
DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--HEAVY PARTICLE, ATOM, STRONG MAGNETIC FIELD, ELECTRON SHELL
   STRUCTURE, EXCITATION ENERGY, SPHERIC SHELL STRUCTURE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/2234   ·STEP NO--UR/0056/70/058/005/1765/1769

CIRC ACCESSION NO--AP0127596
                    UNCLASSIFIED

CIRC ACCESSION NO--AP0127596

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE HARTREE, THOMAS, FERMI
APPROXIMATION FOR A HEAVY ATOM IN THE ULTRASTRONG MAGNETIC FIELD
CONSIDERABLY EXCEEDING 10 PRIME10 OE IS CONSIDERED, COMPLETE
REARRANGEMENT OF THE ELECTRON SHELLS OCCURRING IN THIS CASE. IT IS
DEMONSTRATED THAT SPHERICAL SYMMETRY IS PRESERVED AND THE ATOMIC RADIUS
DECREASES WITH THE MAGNETIC FIELD STRENGTH IN A CERTAIN RANGE OF ITS
VARIATION. THE EXCITATION LEVELS OF SUCH AN ATOM ARE DISCUSSED.

UNCLASSIFIED

ATC034876   NUCLEAR SCI. ABST. 1/70   NE 0000

3389   (UCRL-Trans-10378) DISSIPATIVE TRAPPED-
PARTICLE INSTABILITY IN A DENSE PLASMA (COLLECTION).
Kadomtsev, B. B.; Pogutse, O. P. (Akademiya Nauk SSSR, Mos-
cow, Institut Atomnoi Energii). Translated for Univ. of Califor-
nia, Lawrence Radiation Lab., Livermore, from report IAE-1861.
39p. (CONF-690619-11; CONF-690619-12; CONF-690619-13).
Dep. CFSTI.
   From 3rd Conference on Controlled Fusion and Plasma Phys-
ics, Utrecht, Netherlands.
   This collection consists of three papers on the drift-wave in-
stability associated with the dissipation occurring when trapped
electrons are converted into transit electrons and vice versa.
The first paper investigates the instability itself, the second
paper shows that, in some cases, the growth of drift waves may
result from electrical capture of electrons by the wave and, finally,
the third paper analyzes the laminar convection in toroidal sys-
tems due to trapped-electron instabilities. (auth)

USSR

UDC:532.59

KADOMTSEV, B. D., KARPMAN, V. I.

"Nonlinear Waves"

Moscow, Uspekhi Fizicheskikh Nauk, Vol 103, No 2, Feb 71, pp 193-232

Abstract: This article presents the primary results from the theory of nonlinear wave processes in continuous media in comparatively simple form, considering dispersion and dissipative effects. Primary attention is given to the unstable process of the formation of collision and combined waves, phenomena of self-constriction and self-focusing of wave packets, processes of dynamic and stochastic interaction of waves. The general regularities are illustrated with examples from the areas of hydrodynamics, plasma physics, nonlinear optics, etc.

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1/2   016   UNCLASSIFIED   PROCESSING DATE--20NOV70

TITLE--DISSOCIATION CONSTANTS AND STATE OF QUINOLINAZO R IN SOLUTIONS -U-

AUTHOR-(03)-BASARGIN, N.N., KADOMTSEVA, A.V., PETRASHEN, V.I.

CCUNTRY OF INFO--USSR

SCURCE--ZH. ANAL. KHIM. 1970, 25(1), 34-9

DATE PUBLISHED------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--QUINOLINE, AZO COMPOUND, ICNIZATION, PROTON, HETEROCYCLIC
  NITROGEN COMPOUND, DISSOCIATION CONSTANT, SULFONIC ACID

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3002/1178   STEP NO--UR/0075/70/025/001/0034/0039

CIRC ACCESSION NO--AP0128600
                      UNCLASSIFIED

CIRC ACCESSION NO--AP0128600
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE IONIZATION CONSTS. OF
  QUINOLINAZO R (I) AS AN ANAL. REAGENT WERE DETD. GRAPHICALLY AND BY
  CALCN. FROM SPECTROPHOTOMETRIC DATA. THE ACID BASE IONIZATION OF I IS
  REPRESENTED BY: RH SUB5 PRIME2 POSITIVE IN EQUILIBRIUM RH SUB3 PRIMEO
  PLUS 2H (ONE PROTON OF THE AZO GROUP AND THE SULFO GROUP SPLITS OFF); RH
  SUB3 PRIMEO YIELDS RH PRIME2 NEGATIVE PLUS 2H PRIME POSITIVE (ONE PROTON
  SPLITS OFF FROM THE HETEROCYCLIC N AND THE SULFO GROUP); RH PRIME2
  NEGATIVE IN EQUILIBRIUM R PRIME3 NEGATIVE PLUS H PRIME POSITIVE (ONE
  PROTON OF THE OH GROUP SPLITS OFF). THE PROTONIZATION CONSTS. OF
  HETEROCYCLIC N AND THE DISSOCN. CONSTS. OF THE HYDROXYL GROUP WERE PK
  SUBNH PRIME POSITIVE EQUALS 1.48 AND PK SUBOH EQUALS 11.49 IN AQ. SOLNS.
  WITH IONIC STRENGTH OF 0.1 (KCL) AT 20DEGREES. THE PK SUB1 AND PK SUB2
  VALUES DETD. GRAPHICALLY ARE 1.50 AND 11.43, RESP.   FACILITY:
  NOVOCHERKASSK POLYTECH. INST., NOVOCHERKASSK, USSR.

TITLE--SPECTROPHOTOMETRIC STUDY OF THE REACTION OF COBALT WITH QUINOLINAZO
   R -U-

AUTHOR-(03)-BASARGIN, N.N., KADOMTSEVA, A.V., PETRASHEN, V.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(2), 285-93

DATE PUBLISHED------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--SPECTROPHOTOMETRIC ANALYSIS, COBALT, COMPLEX COMPOUND,
   MAGNETIC SUSCEPTIBILITY, PROTON, HETEROCYCLIC NITROGEN COMPOUND

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1993/0918   STEP NO--UR/0075/70/025/002/0285/0293

CIRC ACCESSION NO--AP0113753
                    UNCLASSIFIED

2/2   013   UNCLASSIFIED   PROCESSING DATE--09OCT70
CIRC ACCESSION NO--AP0113753
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CO FORMS A VIOLET COMPLEX WITH
  QUINOLITHAZO R(1-(6,QUINOLYLAZO),2, HYDROXY,3, 6,NAPHTHALENE DISULFONIC
  ACID) IN THE PH RANGE 0.3-14 WITH MAX. ABSORBANCE AT 570 NM AND MOLAR
  ABSORPTIVITY 5.02 TIMES 10 PRIME4. MAX. ABSORBANCE OF THE REAGENT IS AT
  490 NM. AT 20 PLUS OR MINUS 1DEGREES MU EQUALS 0.3 TO 0.1, THE EQUIL.
  CONST. OF THE REACTION IS 2.2 TIMES 10 PRIME11 AND THE INSTABILITY
  CONST. OF THE COMPLEX IS 8.3 TIMES 10 PRIME NEGATIVE51. THE COMPLEX
  DOES NOT DESINTEGRATE AFTER ADJUSTING FROM PH 1.5 TO 6N H SUB2 SO SUB4
  (HCL). MAGNETIC SUSCEPTIBILITY DATA SHOWED THAT CO EXISTS IN THE
  COMPLEX IN ITS TRIVALENT STATE. SIX PROTONS ARE LIBERATED IN REACTIONS
  IN AN ACID MEDIUM. THREE OF THEM SPLIT OFF THE OH GROUPS AND 3 OTHERS
  SPLIT OFF THE PROTONIZED ATOMS FOR THE HEREROCYCLIC N OF THE REAGENT
  MOLS.   FACILITY: NOVOCHERKASSK POLITECH. INST., NOVOCHERKASSK,
  USSR.

UNCLASSIFIED

1/2   014   UNCLASSIFIED   PROCESSING DATE--30OCT70
TITLE--EFFECTIVENESS AND PERIODS OF COTTON DEFOLIATION UNDER VARIOUS
   CLIMATIC CONDITIONS -U-
AUTHOR-(05)-ZAKIROV, T.S., KADRALIYEV, S.I., ALLAMURATOV, A.D., DOTSENKO,
   A.S., SADYKOV, SH.B.
COUNTRY OF INFO--USSR

SOURCE--AGROKHIMIYA 1970, (2), 139-43

DATE PUBLISHED----------70

SUBJECT AREAS--AGRICULTURE, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--DEFOLIANT AGENT, FIBER PLANT, CYANAMIDE, MAGNESIUM COMPOUND,
   CHLORATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/0187   STEP NO--UR/0485/70/000/002/0139/0143

CIRC ACCESSION NO--AP0123956
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0123956
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESULTS OF DEFOLIATION WITH
  BUTIPHOS, CYANAMIDE, AND WITH MG(CLO SUB3) SUB2 UNDER VARIOUS CLIMATIC
  CONDITIONS AND DEVELOPMENT OF COTTON PLANTS ARE DISCUSSED.   THE MOST
  EFFECTIVE WAS BUTIPHOS, ESP. WHEN SPRAYED AT 3 KG-HA.   FACILITY:
  VSES. NAUCH. ISSLED. INST. KHLOPKOVOD., AKKHAVAK, USSR.

UNCLASSIFIED

USSR

UDC 621.375.4:621.375.132.3

KADUK, B. G., FLEYSIMAN, I. V., MASYURENKO, YU. A., RALLEV, I. N.

"Application of an Integrated Circuit of a Differential Amplifier as the Emitter Repeater without a Level Shift"

Translation: An emitter repeater without zero level shift is proposed which is based on a semiconductor integrated circuit of the P 2222 differential amplifier without additional elements. The dynamic range of the input voltages is 0.1-4.0 volts; the transmission characteristic is rectilinear; the transmission coefficient is 0.97. In the temperature range of 20-70° C the drift of the output voltage is < 0.01 % deg^{-1}. This is explained both by the identicalness of the transistors and the equality of their temperatures. The amplifier can be used in electronic phase meters. There is 1 illustration and a 2-entry bibliography.

1/1

KADUK, B. G.

SOME ELECTRIC PROPERTIES OF A TURBOMAGNETIC VELOCITY SENSOR

Insignificant size, lack of a need for current sources and additional amplifiers, high linearity of conversion, simplicity and reliability are the principal requirements imposed on a turbomagnetic velocity sensor with an axial vane when registering the velocity of movement of objects in a fluid, especially some hydrobionic objects.
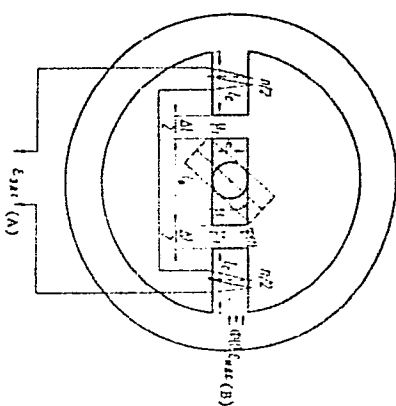

Fig. 1. Diagram of turbomagnetic sensor. A) emf, B) mmf

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USSR   UDC: 621.372.852.15

KADUK, B. G., ROVENSKIY, A. Ya., ROVENSKIY, D. Ya., FIRMAN, B. G., All-
-Union Scientific Research Institute of Analytical Instrument Building
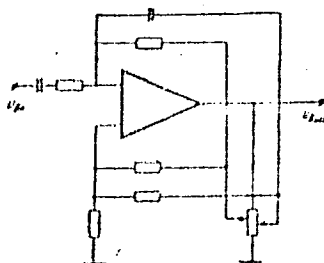
"An Electronic Filter"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 24, Aug 71, Author's Certificate No 311372, Division H, filed 10 Apr
70, published 9 Aug 71, p 207

Translation: This Author's Certificate introduces an electronic filter
which contains an amplifier with a differential input and a parallel
RC circuit. As a distinguishing feature of the patent, provision is
made for adjusting the resonance frequency over a broad range by con-
necting the common point of the RC circuit to the inverting input of
the amplifier, connecting the second ends of the elements in the RC
circuit to different leads of a variable resistor at the output of the
device, and connecting the same ends of these elements through resistors
to a fixed resistor which is connected to the noninverting input of the
amplifier.

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USSR

KADUK, B. G., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy,
tovarnyye znaki, No 24, Aug 71, Author's Certificate No 311372, Division
H, filed 10 Apr 70, published 9 Aug 71, p 207

2/2

USSR

UDC 51:330:115

KADUSHIN, V. P., KOBCHIKOV, A. V.

"Optimal Separation of Servicing Time of n Streams by One System"

Priem I Obrabotka Inform. V Solzhn. Inform. Sistemakh, [Reception and Processing of Information in Complex Information Systems--Collection of Works], No 2, Kazan' University Press, 1970, pp 35-41, (Translated from Referativnyy Zhurnal Kibernetika, No 5, 1971, Abstract No. 5V574).

No Abstract.

1/1

KADYKOV, I. F., Acoustics Institute, Academy of Sciences USSR

"Experimental Study of the Linear Space-Time Correlation Function of Turbulent Wall-Pressure Fluctuations"

Abstract: This article gives the results of an experimental study of the correlation characteristics of wall-pressure fluctuations. The measurements were made on the surface of a streamlined model. The flow varied from 8 to 24 m/sec. Correlation analysis was made in the frequency range of 150-3000 Hz. Simultaneously with the wider frequency range, the spectrum of the fluctuation noise was registered.

This article has established that the correlation characteristics of large-scale turbulent wall-pressure fluctuations, for which the length of the hydrodynamic wave is greater than the thickness of the boundary layer, obey laws that differ from those governing the small-scale ones. Thus, in the region of large heterogeneities it is the correlation radius that is the determinant in selecting the size of the gauge, just as in the small heterogeneities, rather than the size of the heterogeneities to be registered, as

1/2

USSR

KADYKOV, I. F., Akusticheskiy Zhurnal, Vol 27, vyp. 1, 1971, pp 50-54

had been previously assumed. The gauge then must contribute some distortion to the registration of any heterogeneity, regardless of size.

The thickness of the boundary layer is a value which determines, on the one hand, the maximal size of the eddy in the turbulent layer and, on the other hand, the statistical properties (particularly the correlation radius) of the large heterogeneities formed by these eddies.

These results are important particularly for taking into account the influence of the size of the pressure gauge on registration of the turbulent pressure fluctuations.

This article contains six figures and nine equations; three literature references are cited.

2/2

USSR

UDC 678.539.661.238.633/635

KADYKOV, V. V., and MOSKVITIN, N. I.

"Surface Active Polymer Films for Horticulture"

Plasticheskiye Massy, No 3, Apr 71, pp 53-54

Abstract: Polyethylene, polyvinyl chloride and other polymeric films are widely used for coverings and hot houses. These films in the course of use acquire significant static charges, which in turn attract particulate matter, thus inhibiting their transparency. The elimination of static charge can improve the service life and transparency of polymeric films by a factor of 1.5-2. For this purpose antistatic materials are introduced into the film. The principal action of these substances is based on increasing the conductivity of the materials by producing charge leakage from the film. The effectiveness of antistatic substances is based on decrease of the surface resistivity, electrostatic friction potential, the halflife of charge leakage from the materials and changes of the bulk electrical conductivity. The best indices of all of the tests were obtained for polyvinyl chloride film containing 2.5% 0-15 dye as the surface active agent.

1/1

USSR

FEDI..., ..., and ... ...
Ferrous ... ...

"Phase Conversion in ... ... Alloy"

Sverdlovsk, ... Metalloveden.ye, ...

Abstract: ... ...
in ... ... of ... ... alloy after ... ...
The alloy contains approx. 56 ... ...
of zirconium. ... ...
350° C, ... solution ... ...
After ... ...
completed ... ... is fixed, ...
is of ... ... Phase conversion occurs in this alloy ... ...

USSR

UDC: 537.312.62

KADYKOVA, G. N., MOLOTILOV, B. V., PROKOSHIN, A. F., SERGEYEV, I. F.,
FEDOTOV, L. N.

"Properties of 35BT Superconductive Alloy"

Moscow, Sverkhprovodyashchiye splavy i soyedi.--sbornik (Superconductive
Alloys and Compounds---collection of works), "Nauka", 1972, pp 160-166 (from
RZh-Radiotekhnika, No 12, Dec 72, abstract No 12D556 [résumé])

Translation: The structure, electrical resistance and thermal expansion
of 35BT superconductive alloy containing titanium and small additives of
zirconium in addition to 25% niobium were studied in the state after cold
deformation, annealing, and also during heating. A maximum current den-
sity $I_k = 1 \cdot 10^5$ A/cm² in a transverse magnetic field of 30,000 Oe was
reached after cold deformation and annealing at 450°C for 4 hours. Segre-
gations of α-phase with transverse dimensions of about 300 Å are observed
in the structure of the alloy in this state. On the $I_k(H)$ curve of the
specimens in the state after cold deformation and after annealing at
200-300°C, a peak is observed due to the presence of α-phase in the alloy
structure. Four illustrations, bibliography of 14 titles.

1/1

USSR   UDC   537.312.62

KADYKOVA, G. N.

"Phase Transitions in Super-Conducting Alloys of the Niobium-Titanium-Zirconium System"

Translation: It is shown that decay occurs of the metastable β-solid solution with the formation of ω and α-phases in the cold-deformed alloy of titanium containing 35 percent by weight Nb and small admixtures of zirconium during isothermic annealing and heating. During the annealing and heating of 50-65 percent niobium containing alloys, a change takes place in their physical properties showing the decay of the metastable beta-solid solution with the formation of fine-dispersion alpha-phases.
1/1

CSO: 1860-W   - END -

USSR   UDC 621.382.322

GADZHIYEV, N. D., KASIMOV, F. P., and KADYMOV, G. G.

"MOS Transistor Sensitivity to Pressure"

MOS-tranzistor chuvetvitel'nyy k davleniyu (cf. English above. Editorial Board
of the Journal "Izv. AN AzSSr. ser. fiz.-tekhn. i mat. n." [News of the
Academy of Sciences Azerbaidzhan SSR. Physico-Technical and Mathematical
Sciences Series]), Baku, 1971, 5 pp. 3 ref (No 2695-71 DEP (from RZh-
Elektronika i yey primeneniye, No 7, July 1971, Abstract No 7B304 DEP)

Translation: A model is proposed of a sensitive electromechanical transducer using
a MOS transistor as a base, the gate of which is in direct contact with piezoelectric
material.   A calculation for barium titanate shows that the sensitivity of the
device may be on the order of 10^{-4} kg/cm^2. It is possible to adjust the sensitivity
within wide limits by a choice of the thickness of the insulating film of the transis-
tor gate, by a change of the channel length, and also by a choice of the appropriate
piezomaterial.

1/1

KADYMOV, R. A., Docent Professor, and SAFAROV, Yu. B., Professor, Azerbaydzhan Agricultural Institute

"Experimental Vaccination of Sheep"

Abstract: A study was made of the effectiveness of combined and simultaneous vaccination of sheep against paratyphoid, brucellosis, braxy, and infectious enterotoxemia. Different groups of animals were immunized with combined, simultaneous, and separate injections of polyvalent concentrated aluminum hydroxide vaccine against braxy, enterotoxemia, malignant edema of sheep, and dysentery of lambs, and a combined emulsin-vaccine against paratyphoid and brucellosis of sheep. Results of the agglutination reaction revealed that with simultaneous immunization the level of brucellosis agglutinins did not differ from that with separate vaccination for paratyphoid and brucellosis. The titers of paratyphoid agglutinins, however, were somewhat lower than the titers in animals vaccinated with the first and second dose of combined emulsin-vaccine. With combined vaccination, the level of paratyphoid and brucellosis agglutinins was lower than with separate injections against paratyphoid and brucellosis. The serum of animals injected with polyvalent
1/2

USSR

KADYMOV, R. A., and SAFAROV, Yu. B., Veterinariya, No 11, 1971, pp 55-58

concentrated aluminum hydroxide vaccine against braxy, infectious enterotoxemia, malignant edema of sheep and dysentery of lambs possessed the highest neutraliz- ing property toward the toxin of Cl. perfringens type D and B and lethal dose of Cl. septicum. The level of immunity was equal in all groups for brucellosis; it decreased for paratyphoid in the case of combined vaccination, and was the same with simultaneous and separate immunization; for braxy and enterotoxemia, it was the same in the case of combined and simultaneous vaccination.

2/2

Veterinary Medicine

USSR

SAFAROV, Yu. B. and KADYMOV, R. A., Azerbaydzhan Agricultural
Institute

"Simultaneous and Associated Vaccination of Animals Against
Anthrax and Anaerobic Infections"

Baku, Doklady Akademii Nauk Azerbaydzhanskoy SSR, No 11, 1970,
pp 67-70

Abstract: In experiments on guinea pigs and mice, one group of
animals received STI anthrax vaccine in a mixture with the first
dose of polyvalent GOA vaccine (for braxy and infectious
enterotoxemia), a second group received STI vaccine in a mixture
with the second dose of GOA vaccine, a third and fourth groups
received STI vaccine simultaneously with the first or second dose
of GOA vaccine, a fifth group was inoculated only with STI
vaccine, and a sixth group was inoculated only with GOA vaccine.
Associated and simultaneous vaccination was found to promote
longer retention of beta and gamma globulins in the animals'
serum and activate phagocytosis of the causative agents of

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USSR

SAFAROV, Yu. B. and KADYMOV, R. A., Doklady Akademii Nauk
Azerbaydzhanskoy SSR, No 11, 1970, pp 67-70

anthrax, braxy, and enterotoxemia. The use of STI vaccine
simultaneously with the second inoculation of polyvalent GOA
vaccine strengthened immunity to enterotoxemia and anthrax;
immunity to braxy was at the same level as in animals receiving
only the polyvalent GOA vaccine. Inoculation of STI vaccine
together with the second dose of GOA vaccine produced equal
immunity to all three infections.

2/2

USSR

UDC 636.32/.38:619

SAFAROV, Yu. B., Doctor of Veterinary Sciences and KADYMOV, R. A., Candidate of Veterinary Sciences, Azerbaydzhan Agricultural Institute

"Simultaneous Vaccination of Sheep Against Brucellosis and Anaerobic Infections"

Abstract: Immunity with respect to brucellosis and enterotoxemia was increased when test animals were simultaneously vaccinated with strain 19 brucellosis vaccine and polyvalent GOA (aluminum hydroxide) vaccine in various parts of the body. Six groups of tests were run: 1) vaccination with brucellosis vaccine and, simultaneously but separately, the first dose of polyvalent GOA, followed by the second dose of polyvalent GOA 12 days later; 2) vaccination with the first GOA dose and, after 12 days, with the second dose of GOA and the brucellosis vaccine simultaneously but separately; 3) vaccination with the first GOA dose and, after 12 days, with a mixture of the second GOA dose and the brucellosis vaccine; 4) vaccination with the brucellosis vaccine alone; 5) vaccination with the first and second GOA dose alone; and 6) control. Immunobiological shifts in all of

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USSR

SAFAROV, Yu. B., and KADYMOV, R. A., Doklady Vsesoyuznoy Ordena Lenina Akademii Selskokhozyaystvennykh Nauk imeni V. I. Lenina, No 10, Oct 70, pp 33-35

the test animals were determined by serological studies (neutralization and agglutination tests). The immunity level was tested by infecting the test animals with the minimum lethal dose of Cl. perfringens, Cl. septicum, or Br. melitensis strain 2506 several months after the vaccination. It was found that the animals of the third test group had the lowest immunity toward bradsot and enterotoxemia. Test animals were exposed to brucellosis 6 months after vaccination. All of the test animals were killed 30-35 days after infection and their lymph nodes and internal organs were examined. Organ suspensions prepared from animals of the first group did not contain brucellosis cultures.

2/2

Veterinary Medicine

USSR   UDC 636.591.149

SAFAROV, YU. B., and KADYMOV, R. A., Azerbaydzhan Agricultural
Institute

"Protein Fractions in Sheep's Blood After Associated and Simultaneous
Vaccination Against Anthrax and Anaerobic Infections"

Moscow, Sel'skokhozyaystvennaya Biologiya, No 1, 1970, pp 74-78

Abstract: Associated and simultaneous vaccination of sheep and guinea
pigs against anthrax, braxy, and infectious enterotoxemia increased
the total serum proteins, specifically the beta- and gamma-globulins,
while decreasing the content of albumins. The elevated globulin
level persisted longer than when animals were vaccinated against
anthrax and the anaerobic infections separately.

1/1

TITLE--CORRECT PROPORTIONING OF INDIVIDUAL ANTIGENS IN ASSOCIATED AND
  SIMULTANEOUS VACCINATION OF ANIMALS AGAINST ANTHRAX AND ANAEROBIC
AUTHOR-(02)-SAFAROV, YU.B., KADYMOV, R.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, VSESOYUZNOY ORDENA LENINA AKADEMII SEL'SKOKHOZYAYSTVENNYKH
  NAUK IMENI V. I. LENIN, NO 1, 1970, PP 37-38
DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTHRAX VACCINE, GUINEA PIG, WHITE RAT, ANAEROBE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1210   STEP NO--UR/3275/70/000/001/0037/0038

CIRC ACCESSION NO--AP0123174
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0123174

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EXPERIMENTS WITH GUINEA PIGS AND WHITE MICE SHOWED THAT DOUBLING THE DOSE OF ANTHRAX VACCINE WHEN USED SIMULTANEOUSLY WITH GOA VACCINE, REDUCED THE STRENGTH OF IMMUNITY TO ENTEROTOXEMIA BUT CREATED STRONG IMMUNITY TO ANTHRAX AND BRAXY. HOWEVER, USE OF THESE VACCINES IN THE SAME DOSES BUT IN ASSOCIATED FASHION INHIBITED THE FORMATION OF IMMUNITY TO BRAXY AND ENTEROTOXEMIA BUT CREATED STRONG IMMUNITY TO ANTHRAX. THEREFORE IN ASSOCIATED OR SIMULTANEOUS VACCINATION OF ANIMALS AGAINST ANTHRAX, BRAXY, AND ENTEROTOXEMIA, THE CORRECT CHOICE OF DOSES AND OF INDIVIDUAL COMPONENTS ARE ESSENTIAL TO ACHIEVE THE BEST RESULTS.   FACILITY: AZERBAYDZHAN AGRICULTURAL INSTITUTE.

UNCLASSIFIED

TITLE--PROTEIN FRACTIONS IN SHEEP'S BLOOD AFTER ASSOCIATED AND
   SIMULTANEOUS VACCINATION AGAINST ANTHRAX AND ANAEROBIC INFECTIONS -U-

AUTHOR-(02)-SAFAROV, YU.B., KADYMOV, R.A.

COUNTRY OF INFO--USSR

SOURCE--MOSCOW, SEL'SKOKHOZYAYSTVENNAYA BIOLOGIYA, NO 1. 1970, PP 74-78

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ANTHRAX, VACCINATION, BETA GLOBULIN, GAMMA GLOBULIN

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605019/F05 STEP NO--UR/9062/70/000/001/0074/0078

CIRC ACCESSION NO--AP0140983
                    UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--11DEC70

CIRC ACCESSION NO--AP0140983

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ASSOCIATED AND SIMULTANEOUS
VACCINATION OF SHEEP AND GUINEA PIGS AGAINST ANTHRAX, BRAXY, AND
INFECTIOUS ENTEROTOXEMIA INCREASED THE TOTAL SERUM PROTEINS,
SPECIFICALLY THE BETA AND GAMMA GLOBULINS, WHILE INCREASING THE CONTENT
OF ALBUMINS. THE ELEVATED GLOBULIN LEVEL PERSISTED LONGER THAN WHEN
ANIMALS WERE VACCINATED AGAINST ANTHRAX AND THE ANAEROBIC INFECTIONS
SEPARATELY.   FACILITY: AZERBAYDZHAN AGRICULTURAL INSTITUTE.

UNCLASSIFIED

TITLE--REPRODUCTION OF EXPERIMENTAL HEPATITIS IN DOG PUPPIES -U-

AUTHOR-(05)-KERIMZADE, K.G., ALEKPEROVA, L.I., SHEKHTMAN, A.B., KADYMOV,
   SH.R., BERSHCHANSKIY, M.L.
COUNTRY OF INFO--USSR

SOURCE--VOPROSY VIRUSOLOGII, 1970, NR 1, PP 88-93

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEPATITIS, DOG, ADENOVIRUS, LIVER, LUNG, PANCREAS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1983/1207   STEP NO--UR/0402/70/000/001/0088/0093

CIRC ACCESSION NO--AP0054105
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0054105

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ADENOVIRUS TYPES 2 AND 5 AND A
   STRAIN OF B 61D VIRUS PRODUCED IN EXPERIMENTALLY INFECTED 4 DAY OLD DOG
   PUPPIES AND PUPPIES OF 1 AND ONE HALF TO 2 MONTHS AN INFECTIOUS PROCESS
   ACCOMPANIED BY BIOCHEMICAL CHANGES AND PATHOMORPHOLOGICAL LESIONS
   INDICATING INVOLVEMENT OF THE LIVER, LUNGS AND SOME OTHER ORGANS.
   MORPHOLOGICAL MANIFESTATIONS OF THE INFECTIOUS PROCESS WERE
   CHARACTERIZED BY SPECIFIC CHANGES IN EPITHELIAL AND MESENCHYMAL ELEMENTS
   OF THE LUNGS, LIVER, PANCREAS WITH FORMATION OF INTRANUCLEAR INCLUSIONS
   OF VIRAL NATURE.   THE STRAIN OF B 61D VIRUS WAS FOUND TO BE MARKEDLY
   HEPATOTROPIC. ADENOVIRUS TYPE 5 AFFECTED THE DIGESTIVE ORGANS AND LUNGS
   ALMOST TO THE SIMILAR DEGREE, WHEREAS ADENOVIRUS TYPE 2 SHOWED MOST
   MARKED PNEUMOTROPICITY. ADENOVIRUS TYPE 1 HAD POOR BIOLOGICAL ACTIVITY.
     THE EXISTENCE OF CROSS SUSCEPTIBILITY OF HUMAN BEINGS AND DOGS TO
   ADENOVIRUSES AND HIGH RATES OF ISOLATION OF THE LATTER FROM PATIENTS
   WITH INFECTIOUS HEPATITIS DRAW ATTENTION TO ADENOVIRUSES AS A POSSIBLE
   ETIOLOGICAL FACTOR IN THIS INFECTION.

UNCLASSIFIED

Pesticides

USSR   UDC 632.95

KADYROV, CH. SH., ALIYEV, N. A., and BARASHKIN, V. A., Institute of the
Chemistry of Vegetable Matter, Academy of Sciences Uzbek SSR

"Method of Producing Gamma-(nitrophenoxy)-butyric Acids"

USSR Authors' Certificate No 329164, Cl. C 07 c 51/18, C 07 c 79/00, C 07
c 50/22, filed 5 Mar 70, published 27 Mar 72 (from RZh-Khimiya, No 20, 25
Oct 72 by T. A. Belyayeva)

Translation:A method is suggested for producing gamma-(nitrophenoxy)-butyric
acids by the interaction of gamm-butyrolactone (I) with $NO_2C_6H_4ONa$ at a

temperature of 150-155° in DMPA. The resultant compounds can be employed
as plant growth regulators. 24.15 g of $m-NO_2C_6H_4ONa$, 14.2 g of I and

22.8 ml of DMPA are heated and simultaneously stirred for 2 hours at a
temperature of 150-155°, cooled to   100-105°, treated with 50 ml of hot
water, and acidified with HCl (acid). An ether is extracted and treated with
an $NaHCO_3$ solution. Bicarbonate extracts are acidified, and 23.7 go of

gamma-(m-nitrophenoxy)-butyric acid, melting point 114-5° (benzene-hexane 1:1),
are obtained. Gamma-(p-nitrophenoxy)-butyric acid, melting point 122-3°
(benzene-hexane), is analogously obtained.
1/1

UDC 547.91.7

USSR

LIVSHITS, N. D., KADYROV, Ch. Sh., and KEFELI, V. I., "Order of the Red Banner of Labor" Institute of the Chemistry of Plant Materials, Academy of Sciences of the Uzbek SSR; Institute of Plant Physiology imeni Timiryazev

"Synthesis and Biological Activity of RS-Abscisic Acid and Its Analogs"

Abstract: A three-stage method is used for synthesizing abscisic acid giving a 24% yield of intermediate 1-hydroxy-4-keto-α-ionone. The purity of the ketone was checked by the method of thin-layer chromatography. Condensation of 1-hydroxy-4-keto-α-ionone with carboethoxymethylene triphenylphosphoran yields a mixture of isomers of (±) cis-trans and (±) trans-trans-abscisic acid esters. The precipitated triphenylphosphonium oxide was separated from the mixture of abscisic acid ester isomers. The acid ester mixture was then washed in the column without removing the triphenylphosphonium oxide. When the residue was treated with a mixture of ether and petroleum ether, abscisic acid was isolated with a yield of 34%. A possible biosynthetic predecessor of RS-abscisic acid -- ethyl ether of β-ionolydene acetate -- was synthesized by reacting/β-ionone with carboethoxymethyl phosphonic acid. The reaction was

1/2

USSR

LIVSHITS, N. D., et al, Khimiya Prirodnykh Soyedineniy, No 6, 1970, pp 731-735

done with sodium and lithium hydrides in a nitrogen atmosphere in dimethylform-
amide. Ethyl ether of β-ionolydene acetate was also synthesized by reacting
β-ionone with ethyl bromoacetate. In this reaction, ethyl ether of retro-β-
ionolydene acetate is produced in addition to the main product. The authors
studied the effect of various factors on condensation of β-ionone with ethyl
bromoacetate: duration of the reaction, the nature of the catalyst (zinc
powder, zinc amalgam) and its quantity, and also the presence of impurities
which affect product yield. Other possible predecessors of RS-abscisic acid --
ethyl ether of dehydro-β-ionolydene acetate and dehydro-β-ionone -- were
synthesized by N-Br-succinimide allyl bromination of ethyl ether of β-
ionolydene acetate and β-ionone respectively. The best yield of products
for dehydro-β--ionone (50%) was achieved by carrying out the reaction in
carbon tetrachloride (treatment by diethy aniline and pyridine, 3:1), while
the best yield for dehydro-β-ionolydene acetate (57%) was achieved by carrying
out the reaction in methylene chloride (quinoline treatment). It was found
that the predecessors of RS--abscisic acid suppresses the growth of coleoptile
segments to a much lesser extent than the acid itself.

2/2

- 5 -

1/2   018   UNCLASSIFIED   PROCESSING DATE--11SEP70
TITLE--ALKYLATION OF BENZIMIDAZOLONE DERIVATIVES BY GAMMA PRIME MINUS
   VALEROLACTONE -U-
AUTHOR--KOSVAKOVSKAYA, M.N., KADYROV, CH.SH.

COUNTRY OF INFO--USSR

SOURCE--KHIM. GETEROTSIKL. SOEDIN. 1970, (2), 214-15

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BENZIMIDAZOLE, KETONE, LACTONE, ALKYLATION, IR SPECTRUM, NMR
   SPECTRUM, HETEROCYCLIC NITROGEN COMPOUND, CARBOXYL RADICAL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1984/1802   STEP NO--UR/0409/70/000/002/0214/0215

CIRC ACCESSION NO--AP0100376
                        UNCLASSIFIED

CIRC ACCESSION NO--AP0100376
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   TO STUDY NEW POTENTIAL GROWTH
  STIMULATORS, SUBSTITUTED BENZIMIDAZOLONES WERE PREPD., BY THE REACTION
  OF GAMMA PRIME MINUS VALEROLACTONE (I) WITH 2(3H)-BENZIMIDAZOLONES, AND
  THEIR IR AND NMR SPECTRA RECORDED.   THUS, TO A MIXT.   OF 4.1 G
  1,3,DIMETHYL,2(3H),BENZIMIDAZOLONE AND 2.5 G I IN 150 ML
  TETRACHLOROETHYLENE, 10 G ALCL SUB3 WAS ADDED AND THE REACTION MIXT.
  HEATED 2 HR ON A WATER BATH TO GIVE 53PERCENT
  1,3,DIMETHYL,5,(1,METHYL,3,CARBOXYPROPYL),2(3H),BENZIMIDAZOLONE, M.
  138-9DEGREES (I, R EQUALS ME, R PRIME1 EQUALS H); ME ESTER (BY TREATING
  WITH CH SUB2 N SUB2) M. 45-6DEGREES.   SIMILARLY WERE PREPD. II (R, R
  PRIME1, PERCENT YIELD, M.P. AND M.P. ME ESTER GIVEN):   ME, ME, 56,
  130-1DEGREES, 63-4DEGREES; ME, CL, 15, 141-2DEGREES, 49-50DEGREES; H,
  CL, 15, 232-3DEGREES, 163-4DEGREES.

UNCLASSIFIED

USSR   UDC 633.954

ALIYEV, N. A., KADYROV, CH. SH., Institute of the Chemistry of Plant
Substances, Tashkent, Academy of Sciences Uzbek SSR

"Synthesis of Herbicides and Fungicides in a Series of Carboxylic
Acid Arylamides. I"

Abstract: A series of N-substituted arylamides of propacylenic acid
and 2,4-hexadienic acid was synthesized and their biological activity
was studied. No biological data appear in this paper, however. A
mixture of 0.03 g-mole of the aromatic amine, and 0.03 g-mole of di-
methylaniline in 40 ml of anhydrous benzene was placed in a flask
equipped with a reflux condenser, mechanical stirrer, and a dropping
funnel. To this mixture 0.03 g-mole of the respective acyl chloride
was added with cooling, the mixture stirred for an hour, the solvent
steam distilled, and the residue washed with a 5% alkali solution and
water and 5% hydrochloric acid solution and water, and the arylamide
product was recrystallized. The following 2,4-hexadienylamides were
obtained: N-phenyl-, m.p. 151-152°C; N-(3-chlorophenyl)-, 84-85; N-
(4-chlorophenyl)-, 190-191; N-(3,4-dichlorophenyl)-, 129-130; N-
1/2

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USSR

ALIYEV, N. A., and KADYROV, CH. SH., Uzbekskiy Khimicheskiy Zhurnal, No 4, 1970, pp 44-46

(3-methyl-4-chlorophenyl)-, 125.   The following undecylenanilides were obtained: N-phenyl-, m.p. 59-60°C; N-(4-chlorophenyl)-, 62-63; N-(3,4-dichlorophenyl)-, 54-55; N-(3-methyl-4-bromophenyl)-, 49-51; N-(3-methyl-4-chlorophenyl)-, 55-56; N-(3-chloro-4-methylphenyl)-, 48-50; and N-(3-chlorophenyl)- a liquid, b.p. 249°/7 mm, $n_D^{18.5}$ 1.5355 d_4^{20} 1.0358.

2/2

TITLE--IR-SPECTROSCOPICAL STUDY OF SUBSTITUTED, TRIFLUOROMETHYL,
   BENZIMIDAZOLES -U-
AUTHOR-(03)-MOISEYEVA, G.P., KADYROV, CH.SH., YAGUDAYEV, M.R.

COUNTRY OF INFO--USSR

SOURCE--UZBEKSKIY KHIMICHESKIY ZHURNAL, 1970, NR 2, PP 41-43

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HERBICIDE, FLUORINATED ORGANIC COMPOUND, BENZENE DERIVATIVE,
   ORGANIC AZOLE COMPOUND, PLANT PHYSIOLOGY, PHOSPHORYLATION, IR SPECTRUM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1695   STEP NO--UR/0291/70/000/002/0041/0043

CIRC ACCESSION NO--AT0136937
                        UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--04DEC70
CIRC ACCESSION NO--AT0136937
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   SINCE THE HERBICIDE
(TRIFLUOROMETHYL) BENZIMIDAZOLE, WHICH DISRUPTS THE OXIDATIVE
PHOSPHORYLATION IN PLANTS, SHARPLY DECREASES ITS BIOLOGIC ACTIVITY ON
SUBSTITUTION OF H IN THE NH GROUP FOR AN ALKYL, THE AUTHORS ASSUMED THAT
THE HERBICIDAL ACTIVITY IS CONNECTED WITH THE H BONDS IN THE MOLECULE
AND IS CORRELATED WITH THE BASICITY AND THE IR SPECTRUM OF THE
DERIVATIVES.   AN IR SPECTRA INVESTIGATION WAS MADE TO OBTAIN MORE
ACCURATE DATA ON THE POTENTIAL BIOLOGIC ACTIVITY WHICH COULD BE TAKEN
INTO ACCOUNT IN THE SYNTHESIS OF BIOLOGICALLY ACTIVE COMPOUNDS.   THE
FOLLOWING INTERMOLECULAR H BOND TYPES ARE MOST PROBABLE FOR
(TRIFLUOROMETHYL) BENZIMIDAZOLE (TFB): SHOWN ON MICROFICHE.   THE
SPECTROSCOPIC STUDY INDICATED THAT THERE IS NO INTRAMOLECULAR BOND
BETWEEN NH AND CF SUB3 GROUPS.   IN THE DERIVATIVES STUDIED THE
HERBICIDAL ACTIVITY INCREASED WITH THE INCREASE OF ELECTROPOSITIVENESS
OF NITROGEN IN THE NH GROUP.   FACILITY: INSTITUT KHIMII
RASTITEL'NYKH VESHCHESTV, AN UZSSR.

UNCLASSIFIED

TITLE--DYNAMICS OF THE MAGNETIC MOMENT OF A PARAMAGNETIC -U-

AUTHOR-(02)-KADYROV, D.I., SHAPOSHNIKOV, I.G.

COUNTRY OF INFO--USSR

SOURCE--FIZIKA METALLOV I METALLOVEDENIE, JAN. 1970, 29 (1), 58-80

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETIC MOMENT, PARAMAGNETIC METAL, INTERGRODIFFERENTIAL
    EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--2000/1286   STEP NO--UR/0126/70/029/001/0058/0080

CIRC ACCESSION NO--AP0124937
                              UNCLASSIFIED

CIRC ACCESSICN NO--AP0124937

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   THE PRESENT STATE OF THE THEORY OF
   PARAMAGNETIC METALS IS REVIEWED WITH SPECIAL REF. TO THE DYNAMICS OF THE
   MAGNETIC MOMENT, THAT IS, THE EVOLUTION (IN TIME) OF THE MACROSCOPIC
   MAGNETIC MOMENT OF A PARAMAGNETIC SITUATED IN A SPECIFIED EXTERNAL
   MAGNETIC FIELD.   A SYSTEM OF INTEGRO DIFFERENTIAL EQUATIONS IS DERVICED
   FOR THE MAGNETIC MOMENT AND OTHER MAGNETIC PARAMETERS, GIVING A COMPLETE
   PICTURE CF THE MAGNETIC STATE OF THE MATERIAL AT ANY SPECIFIED INSTANT.
   THE SYSTEM OF EQUATIONS MAY BE SIMPLIFIED IN THE CASE OF SLOWLY VARYING
   MAGNETIC FIELDS.

UNCLASSIFIED

USSR

GIKHMAN, I. I., KADYROVA, I. I.

"Some Results of Investigation of Stochastic Differential Equations"

Teoriya sluchayn. protsessov [Theory of Random Processes], No 1, Kiev, Nauk. Dumka Press, 1973, pp 51-68 (Translated from Referativnyy Zhurnal - Kibernetika, No 8, 1973, Abstract No 8 V90 by the authors)

Translation: Definitions are given and properties are established for stochastic curved integrals and stochastic differential equations with continuous and unlimited delay in time, having the form $d\xi = \alpha(\theta, \xi_t, dt)$, where $\alpha(\phi, t)$ is a random field with functional argument ϕ. Relative to the field $\alpha(\phi, t)$, it is assumed that the arbitrary moments of first and second order of the quantity $\alpha(\phi_1, \Delta t) - \alpha(\phi_2, \Delta t)$ satisfy the local lipshitz condition with a random constant.

1/1

USSR   UDC: 8.74

KADYROV, Kh., DZHURAYEV, Yu.

"Principle of Data Compression Without Loss of Accuracy"

V sb. Vopr. kibernetiki (Problems of Cybernetics—collection of works),
vyp. 46, Tashkent, 1971(1972), pp 100-102 (from RZh-Kibernetika, No 6,
Jun 72, Abstract No 6V518)

[No abstract]

1/1

USSR

UDC   621.371.029.6

AMANOV, S. A., KOLARZH, V. V., CHEN, B. B., KADYROV, I., and
RAIMKULOVA, K.

"Statistical Characteristics of UHF Signal Distribution Over Open
Land and Mountain Waterways"

Translation: Experimental integral functions are given for the
distribution of average-time values of the signal attenuation fac-
tor, together with results of an investigation into the daily
course of the fading range during the various months for land and
mountain waterways in the rayon of Lake Issyk-Kul'. Two illustra-
tions, bibliography of two. A. L.

1/1

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USSR

KADYROV, M., SHUSHBAYEV, S.

"One Algorithm for Reduction of Positive Quadratic Forms"

Vopr. Vychisl. i Prikl. Mat. [Problems of Computational and Applied Mathematics -- Collection of Works], No 14, Tashkent, 1972, pp 148-157 (Translated from Referativnyy Zhurnai Kibernetika, No 4, 1973, Abstract No 4V678, by the authors).

Translation: A standard program is written in ALGOL for reduction of positive quadratic forms of n variables (n $\leq$ 6), and the area of Hermith-Minkovskiy reduction M^*_n is calculated.

1/1

USSR

UDC: 621.694.2

BEZNOGIKH, YU. D., ZINOV'YEV, L. P., KADYROV, R. B., KARYAGIN, YU. K., PLYASHKEVICH, N. N., POPOV, V. A., SEMENYUSHKIN, I. N. and STEPANYUK, V. L.

"Injector Debuncher of the OIYAI Synchrophasotron With Energy Modulation of the Accelerated Beam"

Moscow, Pribory i Tekhnika Eksperimenta, Zhurnal Akademii Nauk SSSR, No 1, Jan/Feb 72, pp 37-38

Abstract: The particle intensity in the OIYAI synchrophasotron can be increased by 75% by reducing the energy scattering in the outlet beam and by modulating the energy of the injected beam. Both functions can be performed by a single high-frequency debuncher resonator located at a certain distance from the linear accelerator.

The debuncher resonator is 1/4 of the wave length of the round coaxial line. The tuning is achieved by deflecting the end walls and by a secondary power input. The diagram and the description of this device are presented. Some experimental results obtained with and without the debuncher are also given.

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USSR

UDC: 51:621:391

KADYROV U. S.

"Decoding Algorithm for Reid-Mabler Codes"

Tashkent, V sb. Vopr. kibernetiki (Problems in Cybernetics--collection of works) No 48, 1972, pp 163-166 (from RZh--Matematika, No 8, 1972, Abstract No 8V496)

Translation: Let Φ_m^r be a Reid-Mabler code of order r, with a distance of $d = 2^{m-r}$, a length $n = 2^m$, and the number of information symbols

$$k = \sum_{i=0}^{r} C_m^i = Q_m^r.$$

Vectors $x_1, x_2, \ldots, x_m$ are chosen, where x_i $i = 1, 2, \ldots, m$) represents an alternation of zero and unit sections of length 2^{i-1}, the alternation beginning with a zero section. The generating matrix M_m^r is arranged in the following way: Vector x_m is selected as the first. The products of the vector x_m with the products of the vectors $x_1, x_2, \ldots, x_{m-1}$ taken singly, by twos, by threes, and so on, to $r-1$ are selected as the following $Q_{m-1}^{r-1} - 1$ lines. The

1/3

USSR

KADYROV, U. S., V sb. Vopr. kibernetiki, No 48, 1972, pp 163-166

remaining lines are the vector from unity and all the possible products of the vectors $x_1, x_2, \ldots, x_{m-1}$ taken singly, by twos, by threes, and so on up to r. Such a matrix has the form:

$$(M_m^r)' = \begin{bmatrix} 0 & M_{m-1}^{r-1} \\ M_{m-1}^{r-1} & M_{m-1}^{r-1} \end{bmatrix}.$$

It is proved that decoding the code $\Phi_{\mu,e}^{\rho}$ with the generating matrix $[M_\mu^\rho, M_\mu^\rho, \ldots, M_\mu^\rho]$ consisting of 2^l elements $l = 0,1,2,\ldots$; $\rho = 0,1,\ldots,r$; $\mu = 0,1,\ldots,m$) reduces to decoding code words of the codes $\Phi_{\mu-1,e}^{\rho-1}$ and $\Phi_{\mu-1,l+1}^{\rho}$, with the same distance $2^{\mu-\rho+l}$. The proposed decoding algorithm reduces to a repetition of this procedure. By the term "decoding complexity" is meant the number

2/3

USSR

of logic elements from which the decoding systems are constructed. It is proved that $L(m,r,0) \leqslant C2^{2m-r}$, where $L(m,r,0)$ is the decoding complexity of the code Φ_m^r and C is a constant which is independent of m and r. It is asserted that the proposed algorithm is, from the point of view of the decoding complexity of the system, more convenient for high transmission speeds than the methods based on the Reid algorithm. V. Dyn'kin

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USSR

UDC: 51:621:391

KADYROV, U. S.

"Symbol-by-Symbol Decoding of the Reid-Mabler Codes"

Tashkent, V sb. Vopr. kibernetiki (Problems in Cybernetics--
collection of works) No 48, 1972, pp 151-162 (from RZh--
Matematika, No 8, 1972, Abstract No 8V495)

Translation: The R-M codes are decoded by a combination of special
shifts of the code words through the use of a majority system of
decoding for one symbol. The system consists of 2n memory elements,
and   the number of adders   modulo 2 is no greater than $\log_2 n$,
where n is the length of the code word. V. Dyn'kin

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USSR   UDC: 51:621.391

KADYROV, U. S.

"Symbol-by-Symbol Decoding of Reed-Maller Codes"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection
of works), vyp. 48, Tashkent, 1972, pp 151-162 (from RZh-
-Kibernetika, No 8, Aug 72, Abstract No 8V495)

Translation: Reed-Maller codes are decoded by a combination
of special shifts of code words using a majority decoding
circuit for one symbol. The circuit consists of 2n memory
elements, and the number of mod 2 adders is no more than
$\log_2 n$, where n is the length of a code word. V. Dyn'kin.

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·USSR·   UDC: 51:621.391

KADYROV, U. S.

"An Algorithm for Decoding Reed-Maller Codes"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection
of works), vyp. 48, Tashkent, 1972, pp 163-166 (from RZh-
-Kibernetika, No 8, Aug 72, Abstract No 8V496)

Translation: Let α_m^r be a Reed-Maller code of order r with
spacing $d=2^{m-r}$, length $n=2^m$, number of information symbols

$k = \sum_{i=0}^{r} C_m^i = Q_m^r$.   Vectors $x_1, x_1, \ldots x_m$ are selected where x_i, $i=1,2,\ldots,m$

are an alternation of zero and unit sectors of length 2^{i-1},
assuming that the alternation begins with a zero segment.
The generating matrix M_m^r is rearranged as follows. The vec-
tor x_m is taken as the first line. Selected as the next

$Q_{m-1}^{r-1}-1$ lines are products of vector x_m by the products of

vectors $x_1, x_1, \ldots x_{m-1}$ taken one, two, three, etc. at a time up

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USSR

KADYROV, U. S., <u>Vopr. kibernetiki</u>, vyp. 48, Tashkent, 1972, pp 163-166

to $r-1$. The remaining lines are a vector of units and all possible products of vectors $x_1, x_2, \ldots x_{m-1}$ taken one, two, three, etc. at a time up to r. Such a matrix takes the form

$$(M_m^r)' = \begin{bmatrix} 0 & M_{m-1}^{r-1} \\ M_{m-1}^{r-1} & M_{m-1}^{r-1} \end{bmatrix}.$$

It is proved that decoding of a code $\Phi_{\mu,e}^{\rho}$ with generating matrix $[M_\mu^\rho, M_\mu^\rho, \ldots, M_\mu^\rho]$ consisting of 2^l elements, $l=0,1,2,\ldots; \rho=0,1,\ldots,r;$ $\mu=0,1,\ldots,m$, reduces to decoding of code words of codes $\Phi_{\mu-1,e}^{\rho-1}$ and $\Phi_{\mu-1,l+1}^{\rho}$ with the same spacing $2^{\mu-\rho+l}$. The proposed decoding algorithm reduces to multiple repetition of this procedure. Decoding complexity is understood to mean the number of logic elements comprising the decoding schemes. It is proved that $L(m,r,0)<C_2^{2m-r}$, where $L(m,r,0)$ is the decoding complexity of code Φ_m, C is a constant which is independent of m and r. It is

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USSR

KADYROV, U. S., Vopr. kibernetiki, vyp. 48, Tashkent, 1972, pp 163-166

stated that from the standpoint of the decoding circuit complexity, the proposed algorithm is more convenient at high transmission speeds than methods based on Reed's algorithm. V. Dyn'kin.

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USSR

UDC: 681.3

KADYROV, U. S., SAGALOVICH, Yu. L.

"Complexity of a Linear Decoder"

V sb. Vopr. kibernetiki (Problems of Cybernetics--collection of works), vyp. 43, Tashkent, 1971, pp 165-172 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V912)

Translation: A mathematical model of the complexity of a linear decoding circuit is described. It is concluded that the complexity of the decoding circuit under certain conditions is either less by an order, or vanishes exponentially with respect to the complexity of a combination unit in an automaton realized by the method of disjunction of "spheres". V. Mikheyev.

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1/2   020   UNCLASSIFIED   PROCESSING DATE--23OCT70
TITLE--EXTERNAL SECRETORY FUNCTION OF THE PANCREAS IN EXPERIMENTAL
   DISTURBANCES OF BILE SECRETION -U-
AUTHOR--KADYROV, U.Z.

COUNTRY OF INFO--USSR

SOURCE--PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTAL'NAYA TERAPIYA, 1970,
   VOL 14, NR 2, PP 60-64
DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PANCREAS, FISTULA, AMYLASE, PROTEOLYTIC ENZYME, LIVER
   FUNCTION, ERGOT, AMINE DERIVATIVE, ATROPINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1988/0026   STEP NO--UR/0396/70/014/002/0060/0064

CIRC ACCESSION NO--AP0105125
                        UNCLASSIFIED

UNCLASSIFIED   PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0105125
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   IT WAS SHOWN IN EXPERIMENTS ON
DOGS WITH CHRONIC FISTULAE OF THE PANCREATIC DUCT THAT THERE WAS A RISE
OF SECRETION IN RESPONSE TO MEAT, A RISE OF AMYLYLYTIC AND PROTEOLYTIC
ACTIVITY AND A FALL OF LIPASE CONTENT IN EXTERIORIZATION OF BILE.
EXPERIMENTAL OBTURATION ICTERUS ALSO PROVOKED ENHANCED PANCREATIC
SECRETION IN RESPONSE TO FOOD STIMULI.   HOWEVER, THE CHANGES OF THE
ENZYMATIC COMPOSITION WERE OF DIFFERENT CHARACTER, LYPOLYTIC ACTIVITY
ROSE, AND AMYLOLYTIC ONE, FELL.   EXPERIMENTS WITH ADMINISTRATION OF
ATROPINE AND DIHYDROERGOTAMINE DEMONSTRATED THAT THE LEADING ROLE IN THE
CHANGES OF PANCREATIC SECRETION ESTABLISHED IN BILE EXTERIORIZATION
BELONGS TO THE SHIFTS IN THE MECHANISMS OF NERVOUS REGULATION OF THE
GLAND ACTIVITY.   FACILITY: OTDEL FIZIOLOGII INSTITUTA ZOOLOGII I
PARAZITOLOGII AN UZBEKSKOY SSR, TASHKENT.

UNCLASSIFIED

Instrumentation and Equipment

USSR

UDC: 6?0.17:62-416

UMANSKIY, E. S., Engineer, SVIRIDOVSKIY, Yu. M., Engineer, ALFEYUK, M. N.,
Engineer, KARPINOS, D. M., Engineer, KADYROV, V. Kh., Engineer, Institute
of Problems of Strength, Academy of Sciences UkrSSR

"An Installation for Studying the Mechanical Properties of Metal Foil Materials"

Abstract: The paper describes an installation for studying the strength
and deformability characteristics of foils and fibers over a wide temperature range. The device is basically a water-cooled vacuum chamber mounted
on a special table. A control panel is provided with instrumentation for
various kinds of tests. A vacuum of 10^{-6}–10^{-5} mm Hg ($1.33 \cdot 10^{-4}$–$1.33 \cdot 10^{-3}$
N·m^{-2}) is produced by the exhaust system. Micromechanical tests are done
on a precision breaking machine with maximum breaking force of 250 kgf
(2450 N). A diagram of the unit is given and its operation is described.
Test results are given for the mechanical properties of aluminum foil of
two different thicknesses as a function of temperature.

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113064d Effects of catalyst composition and structure on the hydrogenation of cottonseed oil. Abdurakhimov, A. A.; Kadyrov, Yu.; Usmanova, Z. U.; Salaev, A. (Tashkent. Politekn. Inst., Tashkent, USSR). Maslo-Zhir. Prom. 1970, 36(1), 15-16 (Russ). The effects of compn. and structure of Raney Ni-Cu catalysts on continuous hydrogenation of cotton- seed oil at 200° and an elevated pressure were investigated. All the catalysts tested were prepd. under const. conditions, as follows: Ni-Cu-Al alloys with a const. amt. of 50% Al and various amts. of Ni and Cu were leached with NaOH soln., washed, and dried. The Raney catalysts obtained were di- rectly used for redn. in a reactor, or were oxidized in a stream of O at an elevated temp. The optimum Ni:Cu was 1:1. An increase in the amt. of Cu decreases the activity of the cata- lyst, but increases its selectivity. The catalysts oxidized before redn. were more active and had a higher stability than catalysts prepd. without previous oxidn. An increase in the amt. of Cu leads to a decrease in m.p., acidity, and hardness of the hydro- genated fat. An increase in the redn. temp. to 300° leads to an increase in the activity of the catalyst, but a further in- crease in the redn. temp. decreases its activity. It is caused by sintering of the crystals of Ni and Cu.   M. Zajcew

REEL/FRAME
19840433

USSR

USMANOV, S. M., and KADYROVA, A. S., Uzbek Scientific Research Institute of Epidemiclogy, Microbiology, and Infectious Diseases

"The Effects of Zinc-7 and Manganese-35 Compounds on Certain Mainfestations of Nonspecific Immunity in Dysentery Patients"

Abstract: Of 50 patients ill with acute dysentery of medium severity, 25 were treated with antibiotics only and the other 25 with antibiotics and compounds containing zinc and manganese. In the first group, the complement titer, the total hemolytic activity, and titers of normal hemolysins and hemagglutinins were significantly reduced during the disease and did not return to normal during convalescence. In the second group, the titer of normal hemolysins was not raised, but the complement titer, the total hemolytic activity, and the titer of normal hemagglutinins were increased. On the basis of these findings, it is recommended to include zinc and manganese in the chemotherapy of dysentery patients.

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1/2   017   UNCLASSIFIED   PROCESSING DATE--09OCT70
TITLE--SERIOLOGICAL STUDY OF A SOMATIC COMPONENT ISOLATED FROM COR.
   DIPHTHERIAE -U-
AUTHOR-(03)-KOSTYUKOVA, N.N., KADYROVA, KH.V., YEZEPCHUK, YU.V.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 4,
   PP 59-64
DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--SEROLOGIC TEST, DIPHTHERIA, ANTIGEN, AGGLUTINATION,
   CARBOHYDRATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1990/1538   STEP NO--UR/0016/70/000/004/0059/0064

CIRC ACCESSION NO--AP0109598
                        UNCLASSIFIED

ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT. THE AUTHORS PRESENT THE RESULTS OF
IMMUNOLOGICAL STUDY OF SURFACE FRACTIONS OF THE BODIES OF DIPHTHERIA
BACILLI, OBTAINED BY THE METHOD OF SALT EXTRACTION AT VARIOUS PH VALUES
(1,7,11) AND BY CHLOROFORM THREATMENT. ALKALI SOLUBLE FRACTION PROVED
TO BE THE MOST ACTIVE. IT WAS ALSO THE RICHEST IN PROTEIN AND
CARBOHYDRATES. ALLTHE FRACTIONS CONTAINED A GROUP ANTIGEN PRESENT IN 7
OF 8 STRAINS OF C. DIPHTHERIA UNDER STUDY, WHICH VARIED BY TOXIGENICITY,
BIOCHEMICAL AND SEROLOGICAL PROPERTIES. BESIDES, THE ALKALI SOLUBLE
FRACTION CONTAINED 2 TYPE SPECIFIC ANTIGENS. TYPE SPECIFICITY OF THE
STRAINS REVEALED IN THE REACTION PRECIPITATION WITH THE ALKALI SOLUBLE
ANTIGENS OF THESE STRAINS DID NOT CONFORM COMPLETELY TO THE TYPE
SPECIFICITY DETERMINED WITH THE AID OF AGGLUTINATION REACTION WITH LIVE
CULTURES. WAYS OF OBTAINING PRECIPITATIONG AND HEMAGGLUTINATING SERA TO
VARIOUS ANTIGENS OF DIPHTHERIA BACILLI WERE PUT FORWARD.

UNCLASSIFIED

USSR

KADYROVA, T. K. and MEDZHIDOV, B. F.

K Epidemiologii, Virusologii i Klinike Neyrogrippa v Azerbaydzhanskoy SSR
(Epidemiology, Virology, and Clinical Picture of Neuroinfluenza in the Azer-
baydzhan SSR), Baku, 1971, 122 pp

Translation: Contents
1/2

USSR

KADYROVA, T. K. and MEDZHIDOV, B. F., K Epidemiologii, Virusologii i Klinike
Neyrogrippa v Azerbaydzhanskoy SSR, 1971, 122 pp

2/2

VERIZHNIKOV, L. V., VOSKRESENSKAYA, O. V., KADYROVA, V. KH.,
KIRPICHNIKOV, P. A., MUKMENOV, E. T., Kazan' Institute of Chemical
Technology imeni S. M. Kirov and Institute of Organic Chemistry
imeni A. YE. Arbuzov, Academy of Sciences USSR

"Arbuzov Isomerization of Cyclic Phosphites Containing a Seven-
or Eight-membered Ring"

Abstract: To explore the applicability of the Arbuzov reaction
to the synthesis of cyclic phosphonates with seven- or eight-
membered rings, a study was made of the reactions of certain title
compounds with bromoethane. Heating a cyclic alkyl phosphite,
e.g., 0,0'-diphenyl ethyl phosphite, with excess bromoethane in
a sealed ampoule gave a cyclic alkylphosphonate, e.g., 0,0'-
diphenyl ethylphosphonate, with a higher mp and relatively more
stable than the starting phosphite. Structure of the prepared
compounds was confirmed by NMR and IR spectra. The elemental
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USSR

VERIZHNIKOV, L. V., et al, Zhurnal Obshchey Khimii, Vol 41,
No 10, 1971, pp 2162-2164

analysis data and some physicochemical constants of the synthesized
cyclic phosphonates are tabulated, and the experimental procedures
employed in their preparation are described.

USSR   UDC 547.26'118

KADYROVA, V. KH., KIRPUCHNIKOV, P. A., MUKMENEVA, N. A., GREN, G. P., and
KOLYUBAKINA, N. S., Kazan' Institute of Chemical Technology imeni S. M.
Kirov

"New Thermostable Phosphite Esters"

Abstract: A study of the synthesis of phosphite esters possessing increased
hydrolytic and thermal stability showed that such phosphites can be obtained
by condensation of various bisphenols with trivalent phosphorus derivatives.
The thermostability of the synthesized compounds was studied by the differential
thermal analysis method using a derivatograph of the F. PAULIK-J. PAULIK-L.
ERDEY System. It was found that thermal decomposition begins only at tem-
peratures above 300°.

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USSR   UDC 539.67

BEYLIN, V. M., VEKILOV, Yu. Kh., KADYSHEVICH, A. Ye., and KRASIL'NIKOV, O. M.

"Effect of Alloying An Electrically Active Addition on Phonon Relaxation in Certain Intermetallic Combinations"

Sb. "Vnutrenneye treniye v metallicheskikh materialakh" (Internal Friction in Metallic Materials"), Moscow, Izd-vo "Nauka", 1970, pp 41-43

Abstract: It is shown that the observed ultrasonic absorption is determined by the interaction of an elastic wave with crystal lattice oscillations. Alloying by an electrically active addition leads to increased absorption. Evaluations of the effect of alloying on the absorption coefficient by using data on the effect of alloying on third-order constants are presented. 2 figures, 5 references.

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USSR

GARSEVANISHVILI, V. R., KADYSHEVSKIY, V. G., MIR-KASIMOV, R. M., SKACHKOV, N.B., Joint Institute of Nuclear Research

"A Concept of the Relativistic Amplitude of Scattering at High Energies"

Abstract: A concept of the realativistic amplitude of scattering at high energies is presented in the framework of the quasi-potential approach. The key point in the entire consideration is Fourier analysis of the three-parameter, non-Abolian translation group embedded as a subgroup in the Lorentz group. The concept presented is a generalization of the eikonal approximation in quantum mechanics. 29 bibliographic entries.

1/1

1/2   011   UNCLASSIFIED   PROCESSING DATE--27NOV70
TITLE--TO THE PROBLEM OF THE C YIELDS TO THE INFINITY LIMIT IN THE
   RELATIVISTIC SCHRODINGER EQUATION -U-
AUTHOR-(03)-ZHIDKOV, E.P., KADYSHEVSKIY, V.G., KATYSHEV, YU.V.

COUNTRY OF INFO--USSR

SOURCE--TEORETICHESKAYA I MATEMATICHESKAYA FIZIKA, 1970, VOL 3, NR 2, PP
   191-196
DATE PUBLISHED-------70

SUBJECT AREAS--MATHEMATICAL SCIENCES

TOPIC TAGS--SCHROEDINGER EQUATION, DIFFERENTIAL EQUATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3003/0323   STEP NO--UR/0646/70/003/002/0191/0196

CIRC ACCESSION NO--AP0129555
                              UNCLASSIFIED

CIRC ACCESSION NO--AP0129555
ABSTRACT/EXTRACT--(U) GP-0-   ABSTRACT.   A MATHEMATICAL APPROACH IS
    DEVELOPED FOR INVESTIGATING THE REGULAR DEGENERATION OF THE SOLUTIONS OF
    RELATIVISTIC SCHRODINGER EQUATION SHOWN ON MICROFICHE TO THE SOLUTION OF
    NONRELATIVISTIC ONE SHOWN ON MICROFICHE FOR THE S WAVE CASE.   THE
    PROPOSED METHOD OF SMALL PARAMETER BY HIGHEST DERIVATIVES OF
    DIFFERENTIAL EQUATION IS APPLIED TO SOME CONCRETE PROBLEMS.
    FACILITY: OB'YEDINENNYY INSTITUT YADERNYKH ISSLEDOVANIY.

UNCLASSIFIED

1/2   012   UNCLASSIFIED   PROCESSING DATE--23OCT70
TITLE--THREE DIMENSIONAL RELATIVISTIC EQUATIONS FOR A SYSTEM OF TWO
   PARTICLES WITH UNEQUAL MASSES -U-
AUTHOR-(03)-KADYSHEVSKIY, V.G., MATEYEV, M.D., MIRKASIMOV, R.M.

COUNTRY OF INFO--USSR

SOURCE--YAD. FIZ. 1970, 11(3), 692-700

DATE PUBLISHED-------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--RELATIVISTIC PARTICLE, PARTICLE MOTION, SCHRODINGER EQUATION,
   PARTICLE INTERACTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1992/0377   STEP NO--UR/0367/70/011/003/0692/0700

CIRC ACCESSION NO--AP0111570
                         UNCLASSIFIED

CIRC ACCESSION NO--AP0111570
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATIVISTIC QUASI POTENTIAL
  EQUATION IS GENERALIZED IN THE CASE OF PARTICLES WITH UNEQUAL MASSES.
  THE RELATIVISTIC 2 BODY PROBLEM CAN BE REDUCED TO THE PROBLEM OF MOTION
  OF A PARTICLE WITH A MASS EQUAL TO THE GEOMETRIC MEAN OF THE 2 MASSES IN
  A QUASI POTENTIAL FIELD. THE LIPPMAN-SCHWINGER EQUATION IS DERIVED FOR
  THE CASE OF UNEQUAL MASS; THE RELATIVISTIC SCHROEDINGER EQUATION FOR
  GAMMA PRESENTATION IS GIVEN.   FACILITY: OB'EDIN. INST. YAD.
  ISSLED., DUBNA, USSR.

UNCLASSIFIED

USSR   UDC 613.644

ANDREYEVA-GALANINA, Ye. Ts., KADYSKIN, A. V., and SUVOROV, G. A., Sanitary
Hygiene Medical Institute, Leningrad

"Some Unresolved Aspects of the Noise Problem"

Abstract: Although the effects of industrial noise on the body have been
extensively investigated, some matters of both practical and theoretical
importance have received comparatively little attention. They include:
(a) maximum permissible noise levels in relation to the age of the workers;
(b) variations in the noise spectrum in relation to length of exposure and
dominant frequency components; (c) effects of noise levels below the 63 to
8000 hz frequency range, including the infrasonic frequencies; (d) effects
of pulsed noise; (e) effects of noise combined with other industrial factors;
(f) possibility of noise having cumulative effects; (g) effects of noise on
the female body; (h) effects of prolonged use of individual protective de-
vices against noise.

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USSR   UDC 612.81-06:612.014.45

ANDREYEVA-GALINA, Ye. Ts., ALEKSEYEV, S. V., KADYSKIN, A. V., and VORONTSOV,
V. M., Sanitary Hygiene Medical Institute, Leningrad

"Electrophysiological and Biochemical Investigations of the Brain during the
Experimental Action of Various Noise Parameters"

Abstract: The biological reactions to noise of various structures of the cor-
tex (auditory, visual, and sensorimotor region) and subcortical structures of
the cerebrum (specific and nonspecific nuclei of the thalamus, the reticular
formation of the mesencephalon, and the pons varolii) were studied in 20 rab-
bits by means of chronically implanted intracerebral electrodes in the indi-
cated brain structures. The animals were subjected to a constant noise in a
special chamber. Tissue respiration of the cerebrum under the influence of
noise was investigated. It was found that the oxygen requirement of the
cerebral structures depends directly on the duration of the noise; the
earliest shifts are observed in the auditory region. The disturbances in
tissue respiration can be grouped into two subsequent phases: an activation
phase, in which the intensity of tissue respiration is enhanced; and a depres-
sive phase in which the oxygen requirement decreases sharply, indicating a
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USSR

ANDREYEVA-GALINA, Ye. Ts., et al., Gigiyena Truda i Professional'nyye
Zabolevaniya, No 7, Jul 70, pp 39-42

drop in the functional activity of the regions of the central nervous system
studied. Further research on the metabolic processes in the brain and the
functioning of the entire brain would be desirable as a means of developing
appropriate preventive measures and treatment.

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USSR

UDC 612.014.45-08

ANDREYEVA-GALANINA, Ye, Ts., ALEKSEYEV, S. V., and KADYSKIN, A. V., Sanitary Hygiene Medical Institute, Leningrad

"Use of Experimental Models in Studying the Effect of Noise on the Organism"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 7, Jul 70, pp 4-8

Abstract: The reliability of biological models in studying the effect of noise on hearing sensitivity and on various human organs, including the heart and blood vessel systems, is discussed. It is noted that heart activity, blood circulation, electrocardiograms, and the bioelectrical reactions of the brain and central nerve system are different in man and in animals and also vary considerably among different animal species. The noise stimulus is a specific stimulus affecting the hearing organ as well as the cerebrum to varying degrees; related studies must be made under well-controlled conditions, since noise effects on the body also depend on such parameters as pitch and intensity. When man is used as the test object in a noise-control chamber similar to that used in animal experiments, the observations made often differ from those made in an industrial environment. It is therefore important that tests on humans be made in the actual environment.

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USSR   UDC 612.014.45 + 613.644 + 613.65

BUTKOVSKAYA, Z. M., and KADYSKINA, Ye. N., Leningrad, Institute of Labor
Hygiene and Occupational Diseases

"Effect of Small Local Vibrations and Static Effort on the Organism"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 12, 1971, pp 18-22

Abstract: Effect of vibrations of 64, 32, and 16 Hz combined with a static
effort of 15 kg on the human organism (20-26 year old males) was studied.
Vibrations of the above frequencies combined with a muscular effort of 15 kg
for 15 minutes did not produce any changes in the peripheral blood circulation
or spasms of blood vessels. The same can be said about the neuromuscular sys-
tem, with the exception of a slight decrease of the bioelectric activity of
muscles after a 32 Hz vibration. A combination of a 64 Hz vibration and 15
kg muscular effort did not change the muscle tonicity; and 32 and 16 Hz vi-
brations produced definite changes in muscle tonicity, especially in the case
of low-frequency vibration. However, all muscles returned to normal tonicity
in 15 minutes after the vibrations. A temporary sensitivity loss was obserbed
at certain points of the arm which was especially noticeable after a 64 Hz
vibration for 15 minutes. The accepted industrial norms of 16 and 32 Hz vi-
brations combined with 15 kg muscular effort are justified, but 64 Hz vibration
needs additional study.

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USSR   ·   UDC 550.371:53.083.8

KADZHAROV, M.V., and CHOGOVADZE, G.G.

"Monitoring System With Dispersed Elements in a Data Field"

Translation: The article considers questions in the organization of a monitor-
ing system in a data field by means of dispersed elements. It is shown that the
resolution of the monitoring system can be increased for the case of matrix
representation of the primary elements (sensors) in the monitored field.
2 illustrations. 2 tables.

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USSR   UDC 581.19

KADZHAYA, A. S., MEDVEDEV, B. I., MEDVEDEVA, I. F., and Associate Member of
the USSR Academy of Sciences KUZIN, A. M., Institute of Biophysics, USSR
Academy of Sciences, Pushchino-na-Oke

"The Chemical Nature of Biologically Active Phytolipopolysaccharides"

Abstract: A complex lipopolysaccharide has been isolated from grape mem-
branes. Close to 0.22 g phytolipopolysaccharide (PLP) is isolated from 100 g
dry grape membranes. The biological activity was tested on mice and rats
after they had been irradiated with gamma-rays from a Cs-137 source in doses
of 700 and 600 roentgen, respectively at a rate of 450 roentgen/min. Sur-
vival of the irradiated animals was enhanced by introduction of PLP. An
attempt to separate the PLP complex led to a sharp drop in biological activity
(a survival of not more than 20%). The following total contents (in %) were
determined: lipids, 54.9 ± 1.8, carbohydrates, 27.05 ± 0.43; proteins, 8.56 ± 0.18;
mineral matter, 5.14 ± 0.31; the elementary analysis yielded: C, 59.1 ± 0.2; H,
9.05 ± 0.12; N, 1.64 ± 0.4; P, 1.43 ± 0.05. The lipid component was studied by
thin layer chromatography. Identification of the individual fractions was
done by reference spots or using mixtures of known composition. The carbo-
hydrate part of PLP was studied after hydrolysis in 1N HCl at 100°C for a
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KADZHAYA, A. S., et al., Dokaldy Akademii Nauk SSSR, Vo 197, No 6, 21 Apr 71, pp 1,432-1,434

period of 4 hrs. The hydrolysate was extracted with chloroform. Some 2.33% of the carbohydrates went into the chloroform layer (the carbohydrates which are tightly bound by the lipids). Some 17.9% of the carbohydrate stayed in the aqueous layer, and close to 7% was lost. The hydrolysate carbohydrates were separated by paper chromatography. The individual sugars were studied using pure substances in four solvent systems. Glucose (4.48 ± 0.42), galactose (6.81 ± 0.53), and arabinose (5.93 ± 0.68) were identified in the hydrolysate. No hexosamines were detected. The protein components were analyzed after separation by the phenol method. Isoleucine, tyrosine, and phenylalanine were found in quantities of 0.025-0.026 μ mole per 1 mg of separated protein; lysine, histidine, arginine, proline, and methionine were present in traces; glutaminic acid and valine were detected in amounts of 0.030-0.034 μ mole; leucine and alanine were present in amounts of 0.043-0.047 μ mole, and serine, asparaginic acid and glycine were present in amounts of 0.053-0.057 μ mole. A comparison of the data with known analytical data of the best studied lipopolysaccharides of bacteria shows that PLP from grape membranes has a rather complex lipid composition and a comparatively simple carbohydrate content. The protein component must be studied in more detail.
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UDC 612.019

USSR

NARIKASHVILI, S. P., KADZHAYA, D. V., and TIMCHENKO, A. S., Institute of Physiology, Georgian Academy of Sciences

"Effect of Stimulation of the Nonspecific Thalamic Nuclei on Spontaneous and Evoked Spindles in the Auditory Cortex"

Tbilisi, Soobshcheniya Akademii Nauk Gruzinskoy SSR, No 1, 1973, pp 181-184

Abstract: High-frequency stimulation (300/sec) of the median center, anterior ventral nucleus, or central medial nucleus of the thalamus in immobilized, lightly anesthetized cats did not significantly alter the spindles in the auditory cortex, spontaneous or evoked by clicks, but it markedly suppressed spontaneous spindles in the associative cortex (middle suprasylvian gyrus). Nor did the spindles in the auditory cortex evoked by the clicks change even when they were preceded (by 100 msec) by stimulation of the nonspecific nuclei. Thus, it appears that nonspecific (medial and intralaminar) thalamic nuclei play no part in the origination of spindles in the sensory cortex.

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