APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, A. V., (Lieutenant Colonel of the Medical Service)

"Thrombosis and Nephrolithiasis in Extensive Burns"

Voyenno-Meditsinskiy Zhurnal, No. 5, 1961 PP.80-84

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, A.V., podpolkovnik meditsinskoy sluzhby

Thromboembolism and nephrolithiasis in extensive burns. Voen.-med. zhur. no.5:83 My '61. (MIRA 14:8)

(BURNS AND SCALDS) (THROMBOSIS)
(CALCULI, URINARY)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

NODOV, A.I., prof.; ZUBAREV, A.V.; SHTURKINA, O.K.

Work of the Sverdlovsk Society of Pathoanatomists in 1954-1956.
Arkh.pat. 20 no.12:78-82 '58. (MIRA 12:1)

1. Predsedatel' Sverdlovskogo obshchestva patologoanatomov (for Nodov). 2. Sekretar' Sverdlovskogo obshchestva patologoanatomov (for Zubarev, Shturkina).
(SVERDLOVSK--ANATOMICAL SOCIETIES)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

TREUKHOV, V.Ye.; ZUBAREV, A.V.

Bilateral lymphohemangioma of the epididymis. Urologiia 25 no. 4:61-62 Jl-Ag '60. (MIRA 14:1)

(EPIDIDYMIS—TUMORS)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, A. V.: Master Tech Sci (diss) -- "Establishment of the role and evaluation of the effectiveness of bottom lubrication of drill bits". Baku, 1959. 14 pp (Min Higher Educ USSR, Azerb Order of Labor Red Banner Industrial Inst im M. Azizbekov), 150 copies (KL, No 16, 1959, 108)

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, A. PA 34/49T36

USSR/Medicine - Heart, Wounds and Injuries Jul 48
Medicine - Wounds, History

"Casuistics of Trauma of the Heart and the Vascular System," Capt A. V. Zubarev, Med Corps, Pathoanat Lab, UKVO, 3½ pp

"Khirurgiya" No 7

Describes two cases in detail: one of a wound in the pulmonary artery, the other of a bullet in the pericardium. Includes photograph.

[redacted] 34/49T36

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

SIDORENKO, A.V., glav. red.; FLORENSOV, N.A., red.; RYABENKO, V.Ye., soredaktor; ZUBAREV, B.M., soredaktor

[Geology of the U.S.S.R.] Geologiia SSSR. Moskva, Nedra. Vol.35. Pt.1. 1964. 628 p. (MIRA 18:1)

1. Glavnyy inzhener Buryatskogo geologicheskogo upravleniya (for Ryabenko). 2. Glavnyy geolog Buryatskogo geologicheskogo upravleniya (for Zubarev).

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.I., inzh.

Session of the International Conference on Large Electric Systems. Elektrotekhnika 34 no.9:80 S'63. (MIRA 16:11)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6

KUBAREV, D. N.

Atomic Physics

Dissertation: "Methods of 'Superfluous' Variables in the Theory of Systems of Interacting Particles." Cand Phys-Math Sci, Moscow Order of Lenin State U imeni M. V. Lomonosov, 24 Mar 54. (Vecherniyaya Moskva Moscow, 15 Mar 54)

SO: SUM 213, 20 Sep 1954

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.N.

An Introduction to Quantum Statistics, by W. Band (New York, 1955), is reviewed and criticized by D. N. Zubarev (pp 45-47). The first chapter, dealing with philosophical problems of quantum mechanics, is considered rather ineffectual. Nevertheless, this "philosophic divergence" does not affect the presentation of quantum statistics, which is evaluated as being on a high scientific level. The critic would prefer Gibbs' method, as a basis for the material presented, in the form of the theory of a statistical Neuman operator instead of combinatorial states. The combinatorial method, the reviewer says, although important for comprehensive quantum statistics, is applicable to ideal gases only, while the method of statistical operators holds for any system. According to the reviewer, the author does not pay sufficient attention to the concepts of statistical physics; i.e., the problem of increasing entropy is not discussed, nor the canonic and microcanonic Gibbs distribution. The reviewer cites R. Tolman's The Principles of Statistical Mechanics (Oxford, 1938) as an example of works in which these problems are of central interest. Nevertheless, he says, these deficiencies do not reduce the value of the book, which is recommended for translation into Russian.

SUM-1360

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.N.

USSR/Nuclear Physics - Wave function FD-1916

Card 1/1 Pub 146-1/25

Author : Bogolyubov, N. N., and Zubarev, D. N.

Title : Wave function of the lower state of a system of interacting Bose particles

Periodical : Zhur. eksp. i teor. fiz. 28, 129-139, February 1955

Abstract : By means of the method of "supplementary variables" the authors determine the wave function and energy of the lower state of a weakly nonideal Bose gas with an accuracy up to terms of the second order relative to the parameter of small of the energy of interaction. Eight references.

Institution: Mathematics Institute, Academy of Sciences USSR

Submitted : July 13, 1954

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

USSR/Physics Gas momentum distribution FD-3268

Card 1/1 Pub. 146 - 27/44

Author : Zubarev, D. N.

Title : Distribution function of nonideal Bose gas at temperature of absolute zero

Periodical : Zhur. eksp. i teor. fiz., 29, No 6(12), Dec 1955, 881-882

Abstract : Earlier N. N. Bogolyubov and the writer (ibid., 28, 129, 1955) calculated the wave function of the lower state of a weakly nonideal Bose gas in the first approximation. Using this function the writer in this communication finds the function describing the momentum distribution of the molecules of a nonideal gas, the problem being equivalent from the mathematical viewpoint to the calculation of a configurational integral by a method expounded earlier (D. N. Zubarev, DAN SSSR, 45, 757, 1954). He obtains the distribution function w(p) established by another method by N. N. Bogolyubov (Izv. AN SSSR, ser. fiz., 11, 77, 1947) and involving the delta-function $\delta(p)$. He notes that certain parameters connected with the correlation function g(r) can be determined from experimental data on the scattering of slow neutrons in He II (R. P. Feynman, Phys. Rev., 94, 262, 1954) and that in this case the interaction cannot be considered small. Four references.

Institution: Mathematical Institute, Academy of Sciences USSR

Submitted : June 24, 1955

ZUBAREV, D.N.

PA - 1429

CARD 1 / 2

SUBJECT USSR / PHYSICS
AUTHOR ZUBAREV, D.N.
TITLE A Generalization of the Method of Additional Variables.
PERIODICAL Dokl.Akad.Nauk, 109, fasc.3, 489-492 (1956)
Issued: 9 / 1956 reviewed: 10 / 1956

This method (D.N.ZUBAREV, Žurn.eksp.i teor.fis, 25, 548 (1953) can be generalized in such a manner that it may be applied not only to perfect FERMI- and BOSE gases but also to a collective nuclear model.
Be it assumed that a quantum-mechanical system of FERMI particles is described by N-coordinates $\vec{r}_1,\ldots,\vec{r}_N$. The attempt is made here to separate a certain collective motion of this system, if possible, one of a general character. The density operator of the particle number has the form $\varrho(\vec{r}) = \sum_{1\leq j\leq N} \delta(\vec{r}-\vec{r}_j)$. The Fourier coefficients of $\varrho(\vec{r})$ with respect to a certain complete orthogonal system of functions $\varphi_\lambda(\vec{r})$ are: $\varrho_\lambda = \sum_{1\leq j\leq N} \varphi_\lambda(\vec{r}_f)$, where $\lambda < \lambda_0$ applies. The ϱ_λ are symmetrical functions of the coordinates of the particles and can, so-to-speak, be considered as additional variables which describe the collective motions of the system.
At first ϱ_0 = const is put, and it is assumed that = 0. Besides, ϱ is considered only for $\lambda < \lambda_0$, where λ_0 is a certain limit value of λ, for the collective motion cannot have too short a wavelength. The selection of $\varphi_\lambda(\vec{r})$ depends on the character of the system to be investigated. Thus, plane waves are favorable in

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

AUTHORS: Bogolyubov, N.N., Academician, Zubarev, D.N., Tserkovnikov, Yu. A. 20-117-5-16/54

TITLE: On the Theory of Phase Transition (K teorii fazovogo perekhoda).

PERIODICAL: Doklady AN USSR, 1957, Vol. 117, Nr 5, pp. 788-791 (USSR)

ABSTRACT: The theory of supraconductivity may be conveniently developed by starting from model -Hamiltonian function (gamil'tonian) of the form $H = H_o + H_{int}$, $H_o = \sum_{k,s} (E(k)-\lambda) a^+_{k,s} a_{k,s}$,

$$H_{int} = -(J/V) \sum_{(k,k')} a^+_{-k,-1/2} a^+_{k,1/2} a_{k',1/2} a_{-k,-1/2}.$$

The summing up process in H_{int} is extended only to the momenta, k,k', belonging to the energy level $E_F - \omega < E(k) < E_F + \omega$. The author show, that in the case of this Hamiltonian it is possible to construct the thermodynamic potential $\Psi = F - \lambda N = -\theta \ln Sp\, e^{-H/\theta}$ at $V \to$ in an asymptotically exact manner. Moreover, a computation of this kind is also possible for the more general expression $H = \sum_{k,s}$

$$(E(k)-\lambda) a^+_{k,s} - \frac{1}{V} \sum_{(k,k')} J(k,k') a^+_{-k,1/2} a_{k,1/2} a_{-k',-1/2}.$$

Because of the circumstance, that the theory of phase transition furnishes examples which can be solved only incorrectly, the authors considered it appropriate to develop a method for the computation of the ther-

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

modynamical functions of the Hamiltonian given just above, even the more, as applications to the theory of supraconductivity may emerge here. The authors here introduce the canonical transformation

$$\alpha_{k,1/2} = u_k\alpha_{k,0} + v_k\alpha^+_{k,1}, \quad \alpha_{-k,-1/2} = u_k\alpha_{k,1} - v_k\alpha^+_{k,0}, \quad u_k,$$

v_k denoting real functions, which are connected by the relation $u_k^2 + v_k^2 = 1$. The Hamiltonian thus transformed is given explicitly. Into the same shape is then transformed the statistical form of perturbation theory. The process of computation is followed step by step. The phase transition takes place at that temperature, at which one of the equation given here posesses a nontrivial solution. There are 3 references, 2 of which are Slavic.

SUBMITTED: November 13, 1957

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D. N. and KLIMOV, V. N.

"The Theory of the Temperature Jump at the Boundary of a Plasma in a Magnetic Field." (Work - 1951) pp. 138-161.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. I, 1958, published by Inst. Atomic Energy, Acad. Sci. USSR. resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D. N. and KLIMOV, V. N.

"Stationary Conditions of a Magnetic Thermonuclear Reactor." (Work - 1952); pp. 249-288.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. 1. 1958, published by Inst. Atomic Energy, Acad. Sci. USSR. resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

16(2), 24(8) SOV/155-58-6-27/36

AUTHOR: Zubarev, D.N.

TITLE: Thermodynamical Equivalence of Statistical Ensembles

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 6, pp 169-179 (USSR)

ABSTRACT: In the present paper the author proves the thermodynamic equivalence of the microcanonical, canonical, macro-canonical and of the isobaric-isothermal ensemble. The error in the thermodynamic functions which arises, if one ensemble is replaced by another is simultaneously estimated.
There are 8 references, 2 of which are Soviet, 3 American, and 3 English.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova AN SSSR (Mathematical Institute imeni V.A. Steklov AS USSR)

SUBMITTED: December 26, 1958

Card 1/1

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

SOV-26-58-9-8/42

AUTHORS: Zubarev, D.N., Medvedev, B.V., Candidates of Physico-Mathematical Sciences

TITLE: New Methods in Theoretical Physics (Novyye metody v teoreticheskoy fizike)

PERIODICAL: Priroda, 1958, Nr 9, pp 51-57 (USSR)

ABSTRACT: The article deals with the works of academician N.N. Bogolyubov on new methods in the field quantum theory and the theory of superfluidity and superconductivity, for which he was awarded the Lenin prize of 1958. Each of the 3 fields is described with its historical background and contemporary research. Bogolyubov found out that divergences occurring mathematically in the field quantum theory must be traced back to the fact that entirely new mathematical objects have entered, the so-called "generalizing functions" recently introduced into mathematics in the works of the Soviet mathematician S.L. Sobolev and the French mathematician L. Schwarz (Shvarts). He also worked out a system of physical requirements imposed on the matrix of "scatter". The consecutive theory of superconductivity was worked out mathematically by N.N. Bogolyubov at the end of 1957. In 1938 P.L. Kapitsa had

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

New Methods in Theoretical Physics

SOV-26-58-9-8/42

discovered that helium loses its viscosity at a temperature near absolute zero. The helium then has acquired the property of superfluidity as was demonstrated by Bogolyubov. He proved it mathematically by the special method of canonic conversions. The same method was successfully applied by him to the problem of superconductivity in 1957. There is 1 photo.

ASSOCIATION: Matematicheskiy institut im. V.A. Steklova AN SSSR/Moskva (The Mathematical Institute imeni V.A. Steklov AS USSR/Moscow).

1. Superconductivity--Theory 2. Helium--Applications 3. Low temperature research 4. Physics--Theory

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

20-118-5-15/59

AUTHOR: Zubarev, D. N.

TITLE: On the Theory of Virial Expansions for Non-Ideal Gases (K teorii virial'nykh razlozheniy dlya neideal'nykh gazov)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp. 903-906 (USSR)

ABSTRACT: At the beginning, short reference is made of previous papers dealing with the same subject. The development of the general term of the expansion with respect to the powers of density in general requires voluminous combinatorial or algebraic computations. The author here describes a simple method for the determination of the expansions with respect to the density for classical statistics and for quantum statistics. This method is based upon the application of Cauchy's theorem for a transformation of the expansion with respect to the powers of density into a series with respect to activity. At first a formula is given for the statistical sum Ξ for a "great" Gibbs assembly (which is characterized by the chemical potential μ):

Card 1/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

On the Theory of Virial Expansions for Non-Ideal Gases

$$\frac{p(\rho)}{\theta} = -\frac{1}{2\pi i}\oint \frac{d\lambda}{\lambda}\,\rho(\lambda)\ln\left(1-\frac{\rho}{\rho(\lambda)}\right).$$

The virial coefficients can immediately be obtained from this relation by an expansion of the logarithmic function into a series. There are 8 references, 3 of which are Soviet.

ASSOCIATION: Matematicheskiy institut im. M. V. Steklova Akademii nauk SSSR (Mathematical Institute imeni M. V. Steklov AS USSR)

PRESENTED: September 19, 1957, by N. N. Bogolyubov, Member, Academy of Sciences, USSR

SUBMITTED: September 18, 1957

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

AUTHORS: Zubarev, D. N., Tserkovnikov, Yu. A. SOV/20-120-5-17/67

TITLE: On the Theory of Phase Transitions in a Non-Ideal Bose-Gas (K teorii fazovogo perekhoda v neideal'nom Bose-gaze)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 5, pp. 991 - 994 (USSR)

ABSTRACT: In this paper it is shown that the thermodynamical functions at $V \to \infty$, $N \to \infty$, $v = V/N$ = const can be computed with an asymptotic accuracy for a model Hamiltonian of the form

$$H = E_0 + \sum_k \varepsilon(k) b_k^+ b_k + \sum_{k,k'} \frac{V(k-k')}{2v} b_k^+ b_k b_{k'}^+ b_{k'} + \sum_{k \neq k'} \frac{V(k-k')}{2v} b_k^+ b_{-k}^+ b_{-k'} b_{k'}$$

$$E_0 = \frac{V(0)}{2v} N(N-1)$$

b_k denotes the Bose- (Boze) operators, μ the chemical potential, $V(k)$ the Fourier component of the interaction energy. The relation $\varepsilon(k) = k^2/2m - \mu$ holds. This Hamiltonian differs from the complete Hamiltonian by the fact that only terms marked by two indices were kept. The operators are transformed

Card 1/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

SOV/20-120-5-17/67

On the Theory of Phase Transitions in a Non-Ideal Bose-Gas

canonically, which was suggested by N. N. Bogolyubov in 1947 in the theory of superliquidity:

$$b_k = \lambda_k \beta_k + \mu_k \beta^+_{-k}, \quad b^+_k = \lambda_k \beta^+_k + \mu_k \beta_{-k}, \quad \lambda^2_k - \mu^2_k = 1, \; k \neq 0,$$

where β_k and β^+_k denote the new Bose operators. The interaction is assumed to be sufficiently weak. The Hamiltonian resulting from this transformation is written down explicitly. Formulae for the thermodynamical potential and for the energy of elementary excitation are deduced. An expression is also written down for the spectrum of the elementary excitations, according to which the Bose gas transform at $\theta = \theta_{critical}$ from the non-superfluid state into the superfluid state. Finally the thermodynamical properties of a Bose gas are discussed. The authors acknowledge valuable suggestions given by N. N. Bogolyubov. There are 4 references, 3 of which are Soviet.

Card 2/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

SOV/20-120-5-17/67

On the Theory of Phase Transitions in a Non-Ideal Bose-Gas

ASSOCIATION: Matematicheskiy institut im. V. A. Steklova Akademii nauk SSSR (Mathematical Institute imeni V. A. Steklov AS USSR)

PRESENTED: January 29, 1958, by N. N. Bogolyubov, Member, Academy of Sciences, USSR

SUBMITTED: January 21, 1958

1. Gases--Thermodynamic properties 2. Operators (Mathematics) 3. Transformations (Mathematics) 4. Phase transitions--Mathematical analysis

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

SOV/20-122-6-12/49

24(8)

AUTHORS: Zubarev, D. N., Tserkovnikov, Yu. A.

TITLE: The Thermodynamics of Superconductors (Termodinamika sverkhprovodnikov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 6, pp 999-1002 (USSR)

ABSTRACT: The present paper investigates the thermodynamics of superconductors by means of Frölikh's hamiltonian, in which electron-phonon interaction is explicitly taken into account. The thermodynamical perturbation theory is used for this purpose. Also the electron-phonon interaction constant is renormalized according to the method developed by N. N. Bogolyubov, whereby it is possible to improve development convergence. In this way the same advantages are obtained as in the case of zero temperatures. The initial hamiltonian is first written down explicitly. The canonical operator transformations are carried out like in the papers by N. N. Bogolyubov. Next, the hamiltonian is written down by using the new operators (obtained by transformation). The thermodynamic potential Ω is calculated according to the thermodynamic perturbation theory,

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

in which connection the ansatz $\Omega = \Omega_0 + \langle R \rangle_c$ is used. Expressions for Ω_0 and $\langle R \rangle_c$ and (in second approximation) a rather voluminous expression for Ω are derived. The energy of the elementary excitations of fermions and bosons are determined by the exclusion of certain graphs, which are given. The equations given here, together with the expressions for elementary excitations and with the condition for determining the chemical potential fully determine the coefficients of the initially given canonical transformations. As usual, these equations have a "normal" and a non-trivial solution for the superconductive state of the system. Finally, the thermodynamic functions are calculated. The authors thank N. N. Bogolyubov, Academician, for his useful advice, and V. A. Moskalenko for discussing this paper; they further express their gratitude to C. Bloch (K. Blokh) for placing the first printed copy of one of his papers at their disposal. There are 1 figure and 6 references, 4 of which are Soviet.

ASSOCIATION: Matematicheskiy institut im. V. A. Steklova Akademii nauk SSSR (Mathematics Institute imeni V. A. Steklov of the Academy of Sciences, USSR)

24(0) SOV/30-59-2-42/60

AUTHOR: Khalatnikov, I. M., Doctor of Physical and Mathematical Sciences

TITLE: Investigations of Low-temperature Physics (Issledovaniya po fizike nizkikh temperatur)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 2, pp 98-100 (USSR)

ABSTRACT: The 5th All-Union Conference on this problem took place in Tbilisi from October 27 to November 1, 1958. It was attended by physicists from Moscow, Khar'kov, Leningrad, Tbilisi, Sverdlovsk, and Kiyev. 4 fields of low-temperature physics were discussed: superliquidity of liquid helium II, supraconductivity, antiferromagnetism, magneto-resistive effect. The following reports and communications were heard: A. A. Abrikosov, L. P. Gor'kov reported on the investigation of the properties of supraconductive alloys. A. A. Abrikosov, L. P. Gor'kov, I. M. Khalatnikov spoke of properties of supraconductors in the high-frequency magnetic field. D. V. Shirkov and Chen' Chua-yan' and Chzhou Si-shin', two young Chinese scientists working at Moscow University, described investigations for determination of the influence exercised by the Coulomb (Kulon) interaction of charges on supraconductivity. V. V. Tolmachev explained the nature of the so-called collective excitations of the Bose type in supraconductors. D. N. Zubarev, Yu. A. Tserkovnikov spoke of the thermodynamics of supraconductors and Z. T. Geylikman, V. Z. Kresin of the thermal conduction of supraconductors. Yu. V. Sharvin, V. F. Gantmakher reported on experimental work with supraconductors. E. V. Zavaritskiy spoke of the measurement of the anisotropy of thermal conductivity in the supraconductive state. In a series of reports problems of the superliquidity of helium were discussed, which was discovered in 1938 by P. L. Kapitsa and the theory of which was set up in 1941 by L. D. Landau. E. L. Andronikashvili and his collaborators investigated the properties of rotating helium. V. P. Peshkov spoke of the effect of the formation of the boundary between superliquid and non superliquid helium. Guan Vey-yan', collaborator of the Institut fizicheskikh problem (Institute of Physical Problems) investigated the properties of the so-called jump in temperature of Kapitsa. I. M. Lifshits, V. D. Peschanskiy investigated galvanomagnetic phenomena in strong magnetic fields for metals with open Fermi surfaces. M. Ye. Alekseyevskiy, Yu. P. Gaydukov experimentally investigated the resistance anisotropy of gold monocrystals in the magnetic field. I. S. Kan, B. G. Lazarev combine the presence of a temperature minimum with the structural state of the metal. M. Ya. Azbel' reported on the quantum theory of metallic conductivity in the alternating electromagnetic and constant magnetic field. A. S. Borovik-Romanov reported on the weak ferromagnetism in antiferromagnetic samples of $MnCO_3$. N. N. Kreynes, Ye. A. Turov investigated the magnetic anisotropy of the antiferromagnetic monocrystals $CuSO_4$ and $CoSO_4$. Z. A. Alikhanov reported on neutronographic investigations of antiferromagnetics. Ye. I. Kondorskiy and collaborators reported on the susceptibility of nickel and nickel-copper alloys at low temperatures. N. I. Kavanov, V. M. Tsukernik reported on kinetic phenomena in ferromagnetics at low temperatures. A. I. Akhiyezer, M. I. Bar'yakhtar and S. V. Peletminskiy spoke of computations of the relaxation of the magnetic moment in ferromagnetic dielectrics at low temperatures. T. I. Sanadze spoke of observation results of paramagnetic resonance of terbium in the $TbCl_3 \cdot 6H_2O$ nitrate. G. R. Khutsishvili gave a theoretical analysis of the orientation of the nuclear spin in the Overhauser (Overkhauser) effect in nonmetals. B. N. Samoylov, N. N. Reynov and collaborators reported on obtaining orientated nuclei. N. P. Bulatova, V. S. Kogan and B. G. Lazarev showed that hydrogen isotopes in solid state have different structures. I. A. Sindin, B. G. Lazarev, Kh. D. Starodubov and V. I. Khotkevich detected polymorphism in a number of metals at low temperatures. E. L. Andronikashvili, V. P. Peshkov and M. P. Malkov reported on the stage of development of foreign scientific research work in the field of low-temperature physics. At the end of the Conference P. L. Kapitsa spoke of his successful development of investigations in the field of low-temperature physics. The participants of the Conference visited the Institut fiziki Akademii nauk Gruzinskoy SSR (Physics Institute of the Academy of Sciences of the Gruzinskaya SSR) and the Physics Faculty of Tbilisi University as well as the building of the new research atomic reactor near Tbilisi.

Card 1/4

Card 2/4

Card 3/4

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

S/155/59/000/02/025/036

AUTHORS: Zubarev, D.N., Tserkovnikov, Yu.A.

TITLE: On the Theory of the Phase Transition in Fermi Systems

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1959, No. 2, pp.133-140

TEXT: The authors consider a system of Fermi particles with direct interaction. For the fundamental magnitudes characterizing the system the authors obtain equations, as they occur in the theory of superconductivity under use of the quaternary hamiltonian in which the interaction of the electrons through the phonons of the grid is replaced by their direct interaction, or in the investigation of the nuclear material with the aid of the quaternary hamiltonian. In (Ref. 1) and (Ref. 5) there were solved similar equations under the assumption that the matrix element of the interaction is constant and only different from zero in a close neighborhood of the Fermi surface. In the present paper the authors show that by application of solution methods for non-linear integral equations with branching it is possible to determine the solution of these equations under more general assumptions on the kernels of the equations. - There are 11 references, 9 Soviet and 2 American.

ASSOCIATION: Matematicheskiy institut imeni V.A. Steklova AN SSSR (Mathematical Institute imeni V.A. Steklov AS USSR)

SUBMITTED: March 18, 1959

Card 1/1

24(0)

AUTHOR: Cheotsov, N. SOV/53-67-4-7/7

TITLE: The Fifth All-Union Conference on the Physics of Low Temperatures (5-ye Vsesoyuznoye soveshchaniye po fizike nizkikh temperatur)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 4, pp 743-750 (USSR)

ABSTRACT: This Conference took place from October 27 to November 1 at Tbilisi; it was organized by the Otdeleniye fiziko-matematicheskikh nauk Akademii nauk SSSR (Department of Physico-mathematical Sciences of the Academy of Sciences, USSR), the Akademiya nauk Gruzinskoy SSR (Academy of Sciences, Gruzinskaya SSR), and the Tbilisskiy gosudarstvennyy universitet im. Stalina (Tbilisi State University imeni Stalin). The Conference was attended by about 300 specialists from Tbilisi, Moscow, Khar'kov, Kiyev, Leningrad, Sverdlovsk, and other cities as well as by a number of young Chinese scientists at present working in the USSR. About 50 lectures were delivered which were divided according to research fields.

II. Supraconductivity. 15 lectures were delivered on this field of which two were experimental and the others theoretical. Reports on experimental investigations of supraconductivity were delivered by Yu. V. Sharvin and V. F. Gantmakher (IFP) and N. V. Zavaritskiy (IFP). The former investigated the structure of the intermediate state in monocrystals of pure tin, the latter measured the thermal conductivity of differently shaped orientated cylindrical gallium samples at 0.1 - 4.2°K. A. A. Abrikosov, L. P. Gor'kov and I. M. Khalatnikov (IFP) theoretically investigated the behavior of a superconductor in the high-frequency field. V. L. Ginzburg and G. F. Kharkov (FIAN) dealt with the microscopical theory, and Ginzburg discussed among other things the part played by fluctuations in phase transitions of the second kind. I. M. Lifshits (KhFTI) showed that it follows from the modern theory of supraconductivity in consideration of the anisotropy of metals that, in principle, the existence of supraconductors is possible which are supra-conductive only within a limited range of temperature (and not at all temperatures below the critical ones). B. T. Geylikman and V. E. Kresin (IAE) investigated the electron- and phonon thermal conductivity of supraconductors by means of the microscopical theory at temperatures that are not very near absolute zero. M. V. Sukov and L. E. Gurevich (FTI AN SSSR) spoke about the surface energy on the boundary between the supraconductive and normal phases. D. N. Zubarev and Yu. A. Tserkovnikov ("Matematicheskiy institut AN SSSR - Mathematics Institute AS USSR) dealt with the thermodynamics of the supraconductive state (Froehlich-model), V. V. Tolmachev (MIAN) investigated the problem of collective excitations in a supraconductor. N. N. Shirkov (Ob"yedinennyy institut yadernykh issledovaniy - Joint Institute of Nuclear Research) spoke about consideration of Coulomb-interaction of electrons in semiconductors. The problem of consideration of the Coulomb interaction was discussed by Chen' Ch'un-hsien and Chou, Hsi-hsin (PCU).

Card 3/11

Card 4/11

ZUBAREV, D. N.

S/056/60/039/01/18/029
B006/B063

AUTHORS: Bogolyubov, N. N., Zubarev, D. N., Tserkovnikov, Yu. A.

TITLE: An Asymptotically Exact Solution of the Model Hamiltonian of the Theory of Superconductivity

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 1(7), pp. 120-129

TEXT: Using the model Hamiltonian by Bardeen, Cooper, and Schrieffer the authors have shown in a preceding paper (Ref. 1) that the thermodynamic functions of a superconducting system of the volume V are asymptotically exact if $V \to \infty$ and $N/V = \text{const}$ (N - number of particles). This was explained by the fact that each term of the perturbation-theoretical expansion, by means of which the correction to the solution was calculated, becomes asymptotically small when $V \to \infty$. The present paper shows that an asymptotically exact solution as the one given in Refs. 1 and 2 is obtained even if perturbation theory is not employed. It is further shown that the solution resulting for $V \to \infty$, which corresponds to the non-superconductive state (trivial solution), is not applicable at temperatures, Θ, below

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

An Asymptotically Exact Solution of the Model Hamiltonian of the Theory of Superconductivity

S/056/60/039/01/18/029
B006/B063

that of the phase transition, Θ_0, as it does not satisfy the conditions required for exact Green functions. It has already been said (Refs. 4 and 5) that there is no trivial solution for $\Theta < \Theta_0$. The authors first give and discuss the model and approximative Hamiltonians of the theory of superconductivity. The second part of the present paper shows that the whole chain of equations constructed for Green functions on the basis of the model Hamiltonian can be satisfied asymptotically. The last part shows that the trivial solution cannot be used below the critical temperature as it does not satisfy the conditions required for exact Green functions. A summary of the results of this work is given in conclusion. L. N. Gor'kov is also mentioned. There are 11 references: 7 Soviet and 2 US.

ASSOCIATION: Matematicheskiy institut Akademii nauk SSSR (Institute of Mathematics of the Academy of Sciences, USSR)

SUBMITTED: February 13, 1960

Card 2/2

S/053/60/071/01/02/011
B006/B011

AUTHOR: Zubarev, D. N.

TITLE: Two-time Green Functions in Statistical Physics

PERIODICAL: Uspekhi fizicheskikh nauk, 1960, Vol. 71, No. 1, pp. 71-116

TEXT: The author of the present paper offers an extensive survey of the application of Green functions in statistical physics. The introduction (Part 1) briefly deals with the application of Green functions in the quantum field theory and statistical mechanics. Part 2 deals with Green's two-time temperature functions (causal, delayed, and advanced Green functions, equations for Green functions, time correlation functions). Part 3 is devoted to spectral representations (spectral representations for time correlation functions; spectral representations for delayed and advanced Green functions; spectral representations for causal Green functions). In Part 4, Green functions are studied in the theory of irreversible processes (reaction of a quantum-mechanical system in the case of an adiabatic inclusion of an outer periodic disturbance; tensor of electrical conductivity and its relationship with Green functions). Part 5

Card 1/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

Two-time Green Functions in Statistical Physics S/053/60/071/01/02/011
B006/B011

systems with interaction, and (c) real systems with interaction. The properties of statistical systems are clearly compiled in a table. A. S. Parasyuk, Sobolev, Yu. V. Sokhotskiy, M. A. Lavrent'yev, B. V. Shabat, L. D. Landau are mentioned among others. There are 1 figure, 1 table, and 70 references, 37 of which are Soviet.

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

S/020/60/132/05/23/069
B014/B125

AUTHOR: Zubarev, D. N.

TITLE: On the Theory of Superconductivity

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 5, pp. 1055 - 1058

TEXT: In the present paper the two-time Green function is applied to the thermodynamics of the super-conducting state. The author uses the Green function of the type (1) and equations (4) and (5) are obtained for the Fourier components of the Green function. Equations (6) and (7') are obtained for the Green functions by elimination of those equations in (4) and (5) which contain Bose operators. Equations (9) are obtained as solutions of these functions; by a knowledge of these the spectral intensities of the time correlation functions are calculated. The equations for the spectral intensities (16) and further the equations for the distribution functions (17) are obtained. Further, relation (19) for the mean energy of interaction and finally

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

On the Theory of Superconductivity

S/020/60/132/05/23/069
B014/B125

equations (20) for the thermodynamic potential are obtained. It is mentioned that formula (20) had already been obtained in another paper (Ref. 4). The author finally thanks Academician N. N. Bogolyubov for his valuable advice. There are 7 references: 6 Soviet and 1 American.

ASSOCIATION: Matematicheskiy institut im. V. A. Steklova Akademii nauk SSSR (Institute of Mathematics imeni V. A. Steklov of the Academy of Sciences, USSR)

PRESENTED: December 18, 1959, by N. N. Bogolyubov, Academician

SUBMITTED: October 22, 1959

VC

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.N.

Statistical operator for nonequilibrium systems. Dokl. AN SSSR 140 no.1:92-95 S-O '61. (MIRA 14:9)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Predstavleno akademikom N.N.Bogolyubovym.
(Operators (Mathematics)) (Mechanics, Analytic)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 1643-66 EWT(1)/ETC/EWG(m)/EWC(m) JW

ACCESSION NR: AP5014847 UR/0020/65/162/003/0532/0535

AUTHOR: Zubarev, D. N. 44,55

TITLE: Gibbs ensemble with local equilibrium and its connection with the theory of fluctuations in transport phenomena

SOURCE: AN SSSR. Doklady, v. 162, no. 3, 1965, 532-535

TOPIC TAGS: statistical ensemble, equilibrium ensemble, fluctuation theory, transport phenomenon

ABSTRACT: The author demonstrates how to determine thermodynamic functions of non-equilibrium states under conditions when the inhomogeneity that disturbs the equilibrium cannot be expressed in terms of a compensating field. In such a case it is possible to employ ensembles with local equilibrium, and the author determines the statistical operator corresponding to such an ensemble and maximizing the [illegible] of the information entropy. A method for investigating fluctuations near the critical point in either a homogeneous or inhomogeneous state is indicated. Methods for transforming the statistical

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 1643-66

ACCESSION NR: AP5014847

operators in a manner such as to permit the investigation of transport processes is also described. 'I thank N. N. Bogolyubov for a valuable discussion.' This report was presented by N. N. Bogolyubov. Orig. art. has: 14 formulas

ASSOCIATION: Matematicheskiy institut im. V. A. Steklova Akademii nauk SSSR (Mathematics Institute, Academy of Sciences, USSR)

SUBMITTED: 25Nov64 ENCL: 00 SUB CODE: TD, OP

NR REF SOV: 005 OTHER: 008

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 01474-66 EWT(1)

ACCESSION NR: AP5015418

UR/0020/65/162/004/0794/0797

AUTHOR: Zubarev, D. N.

TITLE: Transfer processes in systems of particles with internal degrees of freedom

SOURCE: AN SSSR, Doklady, v. 162, no. 4, 1965, 794-797

TOPIC TAGS: particle interaction, molecular physics, excited state

ABSTRACT: Energy exchange between translational and internal motion may be unfavored in systems of complex molecules. A system of this type may be considered as a mixture of gases where the molecules are in various states of excitation. To study transfer phenomena in these systems, conservation laws must be formulated separately for each subsystem with predetermined quantum numbers:

$$\dot{H}_k(x) + \operatorname{div} \mathbf{j}_{H_k}(x) = J_{H_k}(x), \quad n_k(x) + \operatorname{div} \mathbf{j}_k(x) = J_k(x),$$
$$\mathbf{p}_k(x) + \operatorname{Div} T_k(x) = \mathbf{f}_k(x), \qquad (1)$$

where all quantities are adjusted to state k; $H_k(x)$ is energy density; $\mathbf{j}_{H_k}(x)$ is

Card 1/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ACCESSION NR: AP5015418

energy flux; $J_{H_k}(x)$ is the change in energy of the k-th subsystem in a unit of time;

$n_k(x)$ is the particle density in state k, $j_k(x)$ is particle flux, $J_k(x)$ is the rate at which particles are produced in state k, $p_k(x)$ is pulse density; $T_k(x)$ is the pulse density tensor; $f_k(x)$ is the [illegible] force of interaction of the k-th [illegible] the energy densities, numbers of par[illegible]

$$\sum_k J_{H_k}(x) = 0, \quad \sum_k J_k(x) = 0, \quad \sum_k f(x) = 0. \qquad (2)$$

Explicit expression of the operators appearing in (1) requires selecting a model for a system of particles with internal degrees of freedom. The author gives an example of this type of model. Linear relationships are found for the change in energy and the number of particles in the k-th state, assuming that thermodynamic forces are [illegible]

ASSOCIATION: none

Card 2/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ACCESSION NR: AP5015418

SUBMITTED: 25Nov64 ENCL: 00 SUB CODE: NP

NO REF SOV: 004 OTHER: 006

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.N.

Statistical operator for nonstationary processes. Dokl. AN SSSR 164 no.3:537-540 S '65. (MIRA 18:9)

1. Matematicheskiy institut im. V.A. Steklova AN SSSR. Submitted January 26, 1965.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

BUISHVILI, L.L.; ZUBAREV, D.N.

Statistical theory of nuclear spin diffusion. Fiz. tver. tela 7 no.3:722-729 Mr '65. (MIRA 18:4)

1. Institut kibernetiki AN Gruzinskoy SSR, Tbilisi i Matematicheskiy institut imeni Steklova AN SSSR.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.N.

Local equilibrium of the Gibbs ensemble and its relation to the theory of fluctuations and transport phenomena. Dokl. AN SSSR 162 no.3:532-535 My '65. (MIRA 18:5)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Submitted November 27, 1964.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.N.

Transport processes in particle systems with internal degrees of freedom. Dokl. AN SSSR 162 no.4:794-797 Je '65. (MIRA 18:5)

1. Submitted November 27, 1964.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

MOSKALENKO, V.A.; ZUBAREV, D.N., otv. red.; KORKINA, A.I., tekhn. red.

[Calculation of the thermodynamic potential of quantum systems] Vychislenie termodinamicheskogo potentsiala kvantovykh sistem. Moskva, Akad. nauk SSSR, 1961. 56 p. (MIRA 15:12)
(Quantum theory)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, D.N.

Transport processes in systems connected by capillaries. Dokl. AN SSSR 143 no.1:74-77 Mr '62. (MIRA 15:2)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Predstavleno akademikom N.N.Bogolyubovym.
(Mass transfer)
(Capillaries--Permeability)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, F. [Zubariev, F.], diplomand

That the light does not blind. Znan. ta pratsia no. 11:13 N '60. (MIRA 14:4)

(Automobiles---Lighting)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, F.

New forms of labor organization on a swine farm. Sotsi. trud 5 no.6: 126-133 Je '60. (MIRA 13:11)

(Swine)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, F., agronom

Wages on the collective farms. Sots.trud 4 no.6:123-130 Je '59. (MIRA 12:8)

(Collective farms) (Wages)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, F.

Instructive example ("Second year without the workday as a basis for wage payment" by K.E. TSybenko. Reviewed by F. Zubarev. Sots.trud 4 no.3:149-153 Mr '59. (MIRA 12:4)

(Agricultural laborers)
(Wages) (TSybenko, K.E.)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, F.A.

Thorough study of the collective farm economy ("A unified production and finance plan and monthly wages on collective farms" by S.A.Ignatov, M.M.Stupnikov and A.P.Germanov. Reviewed by F.A.Zubarev) Nauka i pered.op.v sel'khoz. 7 no.9:77-79 S '57. (MIRA 10:10)

(Collective farms) (Ignatov, S.A.) (Stupnikov, M.M.) (Germanov, A.P.)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, F.A., agronom-organizator.

It's impossible to agree with this. Nauka i perod. op. v sel'khoz. no.10:29-32 O '56. (MLRA 9:12)

(Collective farms--Accounting)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, P.G.

Dynamics of blood pressure in cerebral and peripheral vessels in hypertonic and atherosclerotic psychoses during treatment with aminazine. Zhur. nevr. i psikh. 65 no.6:894-899 '65.
(MIRA 18:6)

1. Psikhiatricheskoye otdeleniye (nachal'nik V.L. Tsaytlin) voyennogo gospitalya i Nauchno-issledovatel'skiy psikhonevrologicheskiy institut im. Bekhtereva (direktor E.A. Lebedev). Nauchnyy rukovoditel' raboty - prof. Ye.S. Averbukh, Leningrad.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, F.P.

Present state and prospects for the development of fruit growing in Issyk-Kul' Province. Izv.AN Kir.SSR no.6:113-130 '58. (MIRA 11:12)

(Issyk-Kul' Province--Fruit culture)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, Fedor Pavlovich; VYKHODTSEV, I.V., prof., doktor biol. nauk, otv. red.

[Apple trees of northern Kirghizistan and their varietal identification; Issykul' Depression] IAbloni Severnoi Kirgizii i ikh opredelenie; Issyk-Kul'skaia kotlovina. Frunze, AN Kirg.SSR, 1963. 314 p. (MIRA 17:4)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ACC NR: AM5026182 Monograph UR/

40

Zubarev, Georgiy Arsen'yevich

Coordination of troops in combined arms combat (Vzaimodeystviye voysk v obshchevoyskovom boyu). Moscow, Voyenizdat Ministerstva oborony SSSR, 1965. 152 p. illus., fold. charts. Errata slip inserted. 2000 copies printed.

TOPIC TAGS: tactical warfare, conventional warfare, offensive warfare, defensive warfare, encounter warfare, military training, ground force organization

PURPOSE AND COVERAGE: This book is intended for infantry officers, students in military schools, and reserve officers. Principles governing the coordination of the contributing action of [illegible] combined arms units and subunits are presented, along with [illegible] and tactics. [illegible] offensive, meeting engagements, and defense are discussed. The above principles and rules are reviewed in the form of actual field-problem examples.

TABLE OF CONTENTS:

Card 1/3

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 10[illegible]

ACC NR: AM5026182

Card 2/3

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 10[illegible]

ACC NR: AM5026182

SUB CODE: MS/ SUBM DATE: 16Apr65/

Card 3/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

SKORNYAKOV, A.N.; ZUBAREV, G.D.

Operation of coke oven equipment. Koks i khim.no.5:31-33 '56.
(Coke industry--Equipment and supplies) (MLRA 9:10)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

MEDVEDEV, A.I.; ZUBAREV, G.I., inzh.; GORLOV, N.N., inzh.

Portable jet piercing machine. Gor. zhur. no.7:32-36 Jl '64. (MIRA 17:10)

1. Glavnyy inzh. Bakal'skogo rudoupravleniya (for Medvedev).

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO, A.B.; ZUBAREV, G.N.; PANFEROV, K.V.; CHAPSKIY, K.A.

Designing construction elements to be made with plastic materials. Prom. stroi. 38 no. 12:24-31 '60. (MIRA 13:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy Akademii stroitel'stva i arkhitektury SSSR. (Plastics)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, Georgiy Nikolayevich; FEDCHENKO, V., red.; VOLINTSEVA, V., tekhn. red.

[Chemistry in the shop] Khimiia v tsekhe. Moskva, Molodaia gvardiia, 1962. 110 p. (MIRA 15:7)

(Chemistry, Technical)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO, A.B., doktor tekhn. nauk; PANFEROV, K.V., kand. tekhn. nauk; ZUBAREV, G.N., kand. tekhn. nauk; BRUSILOVSKIY, A.I., kand. tekhn. nauk; CHAPSKIY, K.A., inzh.; KLIMOVA, G.D., red. izd-va; MIKHEYEVA, A.A., tekhn. red.

[Instructions for the design and calculation of structural elements made with plastics] Ukazaniia po proektirovaniiu i raschetu stroitel'nykh konstruktsii s primeneniem plastmass. Moskva, Gosstroiizdat, 1963. 88 p. (MIRA 16:5)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut stroitel'nykh konstruktsiy.
(Plastics) (Building materials)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

BELOZEROVA, Anastasiya Sergeyevna; VETRYUK, Ivan Martynovich; GODILO, Petr Viktorovich; ZUBAREV, Georgiy Nikolayevich; KOVAL'CHUK, Leonid Mikhaylovich; KSYUNINA, Nina Grigor'yevna; NIKIFOROV, Yuriy Nikolayevich; PARINI, Yevgeniy Pavlovich; PATUROYEV, Vasiliy Vasil'yevich; PETROV, Igor' Stepanovich; CHERNYY, Boris Grigor'yevich; GUBENKO, A.B., doktor tekhn. nauk, red.; SAKHAROV, M.D., red.; MAKSAKOVA, A.M., red.izd-va; GRECHISHCHEVA, V.I., tekhn. red.

[Glued wooden elements and techniques for their manufacture] Kleenye dereviannye konstruktsii i tekhnologiia ikh izgotovleniia. [By] A.S.Belozerova. i dr. Moskva, Goslesbumizdat, 1962. 180 p. (MIRA 16:5)

(Gluing)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO, A.B., doktor tekhn. nauk; ZUBAREV, G.N., inzh.; KULIKOVSKIY, A.B., inzh.; PETROVNIN, M.I., inzh.; PETROV, I.S., inzh.; BOLOTINA, A.V., red.izd-va; MIKHEYEVA, A.A., tekhn. red.

[Inflatable structures] Pnevmaticheskie stroitel'nye konstruktsii.[By] A.B.Gubenko i dr. Moskva, Gosstroiizdat, 1963. 125 p. (MIRA 16:10)

(Air-pressure support)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO, A.B., doktor tekhn. nauk; ZUBAREV, G.N., inzh.; KULIKOVSKIY, A.B., inzh.; PETROVNIN, M.I., inzh.; PETROV, I.S., inzh.; BOLOTINA, A.V., red.izd-va; MIKHEYEVA, A.A., tekhn. red.

[Inflatable structures] Pnevmaticheskie stroitel'nye konstruktsii.[By] A.B.Gubenko i dr. Moskva, Gosstroiizdat, 1963. 125 p. (MIRA 16:10)

(Air-pressure support)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

BELOZEROVA, A.S.; ZUBAREV, G.N.; CHEBANENKO, M.A.; CHERNYY, B.G.

Construction of a warehouse made of glued wooden elements.
Prom.stroi. 40 no.6:11-14 '62. (MIRA 15:6)
(Potassium salts--Storage)
(Warehouses)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO, A.B., doktor tekhn.nauk; ZUBAREV, G.N., kand.tekhn.nauk; PETROV, I.S., inzh.

Structural plastics and elements made of them. Trudy TSNIISK no.11:5-63 '62. (MIRA 15:9)

(Plastics)
(Building materials)

ZUBAREV, G.N.

PHASE I BOOK EXPLOITATION SOV/1297

Vsesoyuznaya nauchno-tekhnicheskaya konferentsiya po primeneniyu radioaktivnykh i stabil'nykh izotopov i izlucheniy v narodnom khozyaystve i nauke, Moscow, 1957

Polucheniye izotopov. Moshchnyye gamma-ustanovki. Radiometriya i dozimetriya; trudy konferentsii... (Isotope Production. High-energy Gamma-Radiation Facilities. Radiometry and Dosimetry; Transactions of the All-Union Conference on the Use of Radioactive and Stable Isotopes and Radiation in the National Economy and Science) Moscow, Izd-vo AN SSSR, 1958. 293 p. 5,000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR; Glavnoye upravleniye po ispol'zovaniyu atomnoy energii SSSR.

Editorial Board: Frolov, Yu.S. (Resp. Ed.), Zhavoronkov, N.M. (Deputy Resp. Ed.), Aglintsev, K.K., Alekseyev, B.A., Bochkarev, V.V., Leshchinskiy, N.I., Malkov, T.P., Sinitsyn, V.I., and Popova, G.L. (Secretary); Tech. Ed.: Noviohkov, N.D.

PURPOSE: This collection is published for scientists, technologists, persons engaged in medicine or medical research, and others concerned with the production and/or use of radioactive and stable isotopes and radiation.

COVERAGE: Thirty-eight reports are included in this collection under three main subject divisions: 1) production of isotopes 2) high-energy gamma-radiation facilities, and 3) radiometry and dosimetry.

TABLE OF CONTENTS:

PART I. PRODUCTION OF ISOTOPES

Card 2/12

Card 5/12

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO, A.B.; PANFEROV, K.V.; ZUBAREV, G.N.; CHAPSKIY, K.A.

Designing construction elements using plastics. Prom. stroi. 38 no.11:35-41 '60. (MIRA 13:10)

1. Tsentral'nyy nauchno-issledovatel'skiy institut stroitel'-noykh konstruktsiy.

(Plastics)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO, A.B., ZUBAREV, G.N., PANFEROV, K.V., PINSKER, V.G.; NEBOV, V.D., red.; VORONIN, K.P., tekhn. red.

[Prefabricated sectional wooden buildings for temporary use at construction sites] Dereviannye inventarnye sborno-razbornye zdaniia proizvodstvennykh predpriiatii i skladov na stroitel'nykh ploshchadkakh. Moskva, Gos. energ. izd-vo, 1958. 62 p. (MIRA 11:11)
(Construction industry)
(Buildings, Prefabricated)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, G. N.

1473 Razrabotka i issledovaniye kleyenykh konstruktsiy iz standartnykh elementov zavodskogo izgotovleniya dlya pokrytiy proizvodstvennykh zdaniy. M., 1954. 12 s. so skhem 21 sm(Tsentr. nauch-issled.in-t prom. sooruzheniy TsNIPS). 100 ekz. B. ts-(54-5z169)

SO: Knizhnaya Letopis', Vol. 1, 1955

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

GUBENKO,A.B., doktor tekhnicheskikh nauk, laureat Stalinskoy premii; ZUBAREV,G.N., inzhener; PTITSYN,N.P., inzhener, laureat Stalinskoy premii

Metal and wooden arches and beams made of factory-produced standard glued blocks. Rats. i izobr. predl. v stroi. no.101: 14-18 '55. (MLRA 8:10)

1. TSentral'nyy Nauchno-issledovatel'skiy institut promyshlennykh sooruzheniy (for Zubarev)
(Girders) (Arches)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, G. N.

"The Development and Investigation of Cemented Structures Made From Standard Industrial Parts for Facing Industrial Buildings." Cand Tech Sci, Central Sci-Res Inst of Industrial Structures, 29 Dec 54. (VM, 21 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: SUM No. 556, 24 Jun 55

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

FIALKO, Ye.I.; PEREGUDOV, F.I.; NEMIROVA, E.K.; ZUBAKEV, G.S.; ZOLOTAREV, I.D.; POKROVSKIY, L.A.

Radio echo equipment for meteor observations in Tomsk. Issl. ionosf.i met. no.8:45-50 '62. (MIRA 15:4)
(Tomsk--Radar in astronomy) (Meteors)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

FIALKO, Ye.I., prof. doktor; PEREGUDOV, F.I.; NEMIROVA, E.K.; SERAFINOVICH, L.P.; POKROVSKIY, L.A.; ZOLOTAREV, I.D.; ZUBAREV, G.B.

Some results of radar observations of meteors in Tomsk in 1957-1959. Izv. TPI 100:16-19 '62. (MIRA 18:9)

43285
S/831/62/000/008/006/016
E192/E382

6.4731

AUTHORS: Fialko, Ye.I., Peregudov, F.I., Nemirova, E.K., Zubarev, G.S., Zolotarev, I.D. and Pokrovskiy, L.A.

TITLE: Radar equipment for meteor observations at Tomsk

SOURCE: Ionosfernyye issledovaniya (meteory). Sbornik statey, no. 8. V razdel programmy MGG (ionosfera). Mezhduved. geofiz. kom. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 45 - 50

TEXT: Radar equipment, type ТПИ-2 (TPI-2), has been used for meteor observations at Tomsk since May, 1957. Apart from that, additional equipment, type M-3, was designed and built for operating at the wavelength of 4 m. The TPI-2 equipment operates at the wavelength of 10 m and permits determination of the range of a meteor track, its velocity and the radial component of the drift velocity of the track. The pulse-power of the radar transmitter is 100 kW, pulse duration 5 μs, pulsing frequency 600 c.p.s. (each alternate pulse being doubled) and its maximum range is 400 km. The sensitivity of the receiver is 10^{-13} W, the antenna being in the form of a half-wave dipole situated at a height of $\lambda/3$ above the

Card 1/4

S/831/62/000/008/006/016
E192/E382

Radar equipment ....

Earth. The transmitter equipment consists of: 1 - an excitation unit; 2 - high-frequency unit; 3 - output stage; 4 - modulator; 5 - rectifier circuit; 6 - sub-modulator unit; 7 - rectifier unit for 800 V; 8 - rectifier unit for 1 250 V; 9 - rectifier unit for 4 kV; 10 - high-voltage rectifier for 10 kW; 11 - control unit; 12 - rectifier circuits for 250 V and 2 kV; 13 - control panel and 14 - magnetic stabilizer. The transmitter employs a number of power-amplification stages, the output stage being capable of giving 100 kW pulse output. All the transmitter stages, except the quartz stabilized driver oscillator, operate under pulse conditions. The excitation unit consists of the driver, a buffer amplifier, power amplifier, tripler and a "coherent" voltage stage. The driver generates a frequency of 5 Mc/s and its anode circuit is tuned to 10 Mc/s. The buffer amplifier operates without grid currents and the following amplifier stage operates in class C; the tripler produces a frequency of 30 Mc/s and this is fed to the high-frequency unit consisting of two power stages. The modulating equipment consists of a sub-modulator and a modulator, the sub-modulator being driven by anode pulses with a

Card 2/4

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

S/831/62/000/008/006/016
E192/E382

Radar equipment ....

duration of 5 μs, the grid pulses having a duration of 7 μs or gating pulses of 50 to 70 μs duration. The modulator produces powerful output pulses in the output stage and is based on discharging a storage capacitance. The output pulses from the modulator transformer secondary is applied to the anodes of the output tubes. The receiver equipment comprises a device for coherent pulse reception, range-measuring devices for amplitude and brightness, meteor-velocity indicator, drift indicator, noise suppressor, a synchronizing device, a photo-synchronization unit, coherent-pulse drift indicator and power supplies. The meteors are recorded on a photographic film moving with a velocity of 3 cm/min; under special conditions this can be increased to 70 cm/min. The range-indicator is used for visual observation of the reflected signals. The velocity of meteors is measured by the diffraction-pulse method (J.G.Davies, C.D.Ellyett. Philos. Mag., ser.7, v.40, no.305, 1949), the time-base being triggered by the signal reflected from the meteor. The equipment N-3 operates at a wavelength of 4 m and is used for recording the number, range and duration of meteor reflections. The equipment

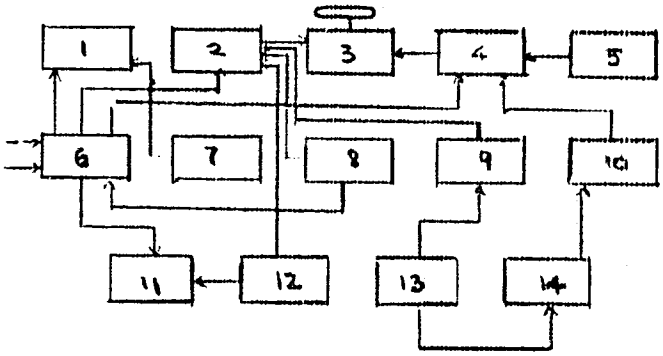
Card 3/4

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

Radar equipment S/831/62/000/008/006/016
E192/E382

has a pulse power of 100 kW, repetition frequency of 600 cps and pulse-duration of 3 μs; it is furnished with a half-wave dipole antenna situated at a height of λ/3 above the Earth and a Yagi-type directional antenna.

Fig.1.



Card 4/4

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, G.S.

Laws governing luminance distribution on a radar screen with a luminous marker. Izv.TPI 86:163-168 '58.
(MIRA 13:5)

(Radar)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, G.V.

Concerning S.A.Libinzon and A.K.Reiter's articles "Improvement of the keeping of accounting records and calculation of production costs in the enterprises of the electric power system." Elek. sta. 32 no.12:87 D '61. (MIRA 15:1)

(Electric power plants--Accounting)
(Libinzon, S.A.) (Reiter, A.K.)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

ZUBAREV, Georgiy Arsen'yevich; SINTAYEV, A.D., red.

[Coordinated action of troops in combined-arms combat] Vzaimodeistvie voisk v obshchevoiskovom boiu. Moskva, Voenizdat, 1965. 150 p. (MIRA 18:7)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

AGABEKYAN, A.S.; GRASYUK, A.Z.; ZUBAREV, I.G.; SVERGUN, V.I.; GRAYEVSKIY, A.N.

Stabilization of nonstable operation of a two-level maser.
Radiotekh. i elektron. 9 no.12:2156-2165 D '64 (MIRA 18:1)

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

BASOV, N.G.; GRASYUK, A.Z.; ZUBAREV, I.G.; KATULIN, V.A.

Generation in GaAs in the case of two-photon optical excitation by radiation from a laser operating on neodymium glass. Pis'. v red. Zhur. eksper. i teoret. fiz. 1 no.4:29-33 My '65. (MIRA 18:11)

1. Fizicheskiy institut imeni Lebedeva AN SSSR. Submitted April 16, 1965.

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

BE[illegible]V, N.G.; G[illegible], [illegible]; [illegible], P.G.; F[illegible], [illegible]

Generation in GaP in two-photon optical excitation by radiation from a ruby laser. Fiz. tver. tela 7 no. 12[illegible] [illegible]65 (MIRA 19:1)

1. Gosudarstvennyy institut imeni Lebedeva AN SSSR, Moskva.

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 29359-66 EWT(m)/EWP(k)/EWT(1)/EWT(m)/EWP(b)/EWA(d)/T/EWP(e)/EWP(t)/ETI IJP(c)

ACC NR: AP6019574 SOURCE CODE: UR/0181/66/008/006/1953/1954

AUTHOR: Grasyuk, A. Z.; Yefimov, V. F.; Zubarev, I. G.; Katulin, V. A.; Mamaev, A. N.

ORG: Physical Institute im. P. N. Lebedev, AN SSSR, Moscow (Fizicheskiy institut AN SSSR); Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: CdSe semiconductor laser with two-photon optical excitation

SOURCE: Fizika tverdogo tela, v. 8, no. 6, 1966, 1953-1954

TOPIC TAGS: laser, semiconductor, semiconductor laser, cadmium selenide

ABSTRACT: Laser action is reported in CdSe excited with a Q-switched neodymium-doped glass laser. Since the energy of the exciting radiation $h\nu = 1.17$ eV is smaller than the width of the forbidden band in CdSe ($E = 1.88$ eV at 77K), the stimulated emission was attributed to two-photon absorption. The 8 x 4 x 2 mm sample was cooled to 77K. The exciting radiation was incident on the 8 x 4 mm face of the sample perpendicular to the Fabry-Perot cavity. The emission observed is shown in Fig. 1. The peak occurred at 5972 A ($h\nu = 1.78$ ev). At an excitation density of 1 Mw/cm^2 the halfwidth of the spontaneous emission was

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 29358-66
ACC NR: AP6018574

Fig. 1. The emission spectrum of CdSe at an intensity of exciting radiation of 1 kw cm² (A) and 7 kw/cm² (B)

[illegible] operation occurred at a density of exciting radiation of [illegible] the halfwidth narrowed down to 20 Å, the intensity of emission [illegible] by two orders of magnitude, and directivity was 1—2°. The [illegible] certain efficiency with regard to the energy of the exciting [illegible] sample was 0.5%. A second harmonic of the [illegible] relative to band 1 was observed when the pump light was [illegible] the c-axis of the sample. The threshold intensity for excitation of CdSe was three times smaller than in optically pumped CdAs. An attempt to attain laser action in CdSe by ruby laser pumping was unsuccessful. Orig. art. has: 1 figure. [CS]

SUB CODE: 20/ SUBM DATE: 03Jan66/ ORIG REF: 003/ ATD PRESS: 5016

Card 2/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

TOPIC TAGS: [illegible] amplifier, molecular [illegible], [illegible], [illegible], quantum electronics, electronic amplifier, [illegible]

[illegible]

Card 1/2

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 23390-66

ACC NR: AT6009314

to estimate the property of such amplifiers, and the results of ex- [illegible] amplifier release and their [illegible] mode, [illegible] and [illegible] optical quantum amplifier, using [illegible] amplifier itself being operated with and without Q switching. Several models of the amplifier were tested for gain, bandwidth, and for operation as an image intensifier. Orig. art. has: 12 figures and 38 formulas.

SUB CODE: 20/ [illegible] REF: 02[illegible] / OTH REF: 0[illegible] / SUBM DATE: none/

Card [illegible]/[illegible]

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6

L 21[illegible]

ACC NR: AP6007829 SOURCE CODE: UR/0120/66/000/001/0156/0158

AUTHOR: Grasyuk, A. Z.; Zubarev, I. G.

ORG: Physics Institute, AN SSSR, Moscow (Fizicheskiy institut AN SSSR)

TITLE: Tuning of a multimirror optical resonator

SOURCE: Pribory i tekhnika eksperimenta, no. 1, 1966, 156-158

TOPIC TAGS: laser resonator, multimirror resonator, resonator tuning

ABSTRACT: A method of tuning multimirror resonators which are a part of lasers 15,44 and regenerative quantum amplifiers is described. The equipment used in the method (see Fig. 1) consisted of a light source, diaphragm, lens, autocollimator, and several mirrors. The method calls for 1) a proper selection of the direction of the collimated beam, 2) crossing of the AC and DF beams at a point B by means of mirrors M_2 and M_3, 3) proper arrangement of auxiliary semitransparent mirror M_4; and 4) placement of the working surface of M_1 at a point [illegible]. When these steps are taken, the autocollimator produces a pattern which indicates a properly tuned

Card 1/3 UDC: 621.378

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6

L 21607-66

ACC NR: AP6007829

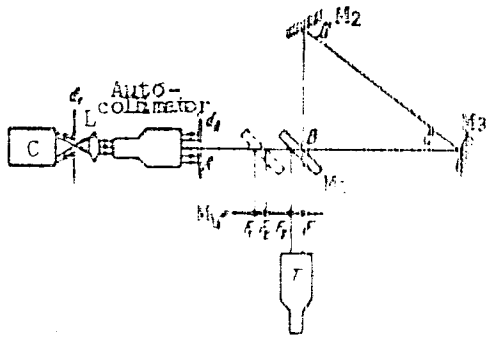


Fig. 1. Equipment used in the method

d_1 and d_2 - Diaphragms with diameters of [illegible] and 3—5 mm, respectively; L - collimating lens with focal length of [illegible] cm; M_1 - semi-transparent mirror; M_2, M_3 - dense mirrors (coefficient of reflection [illegible]%); M_4 - auxiliary mirror; C - condenser; T - auxiliary optical tube.

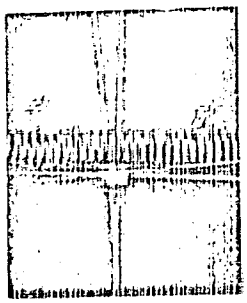


Fig. 2. Pattern of properly tuned resonator

Card 2/3

APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065520005-6"

L 21502-66

ACC NR: AP6007829

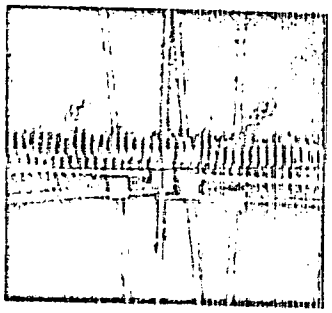


Fig. 3. Pattern of detuned resonator

resonator (Fig. 2). For comparison, a pattern of a detuned resonator is shown in Fig. 3. Orig. art. has: 3 figures. [YK]

SUB CODE: 20/ SUBM DATE: 05Jan65/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS: 4214

Card 3/3