

POPOV, V.S., kand.tekhn.nauk

Measurement and conversion of current, voltage, and power using  
low-inertia indirectly heated resistors. Elektrichestvo no.12:17-22  
D '62. (MIRA 15:12)

1. Institut elektromekhaniki Gosudarstvennogo komiteta po avto-  
matizatsii i mashinostroyeniyu.  
(Electric measurements)

KICHIGIN, A.V., kand.tekhn.nauk; KOYFMAN, A.N., inzh.; POPOV, V.S.

Use of hydraulic strikers for drilling vertical boreholes. Shakht.  
stroit. 6 no.11:21-23 N '62. (MIRA 15:12)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti  
(for Kichigin). 2. ~~Belogorodskoye~~ SShPU Vsesoyuznogo tresta po  
prokhodke shakht Glavtsentroshtakhtostroya Ministerstva stroitel'stva  
predpriyatiy ugol'noy promyshlennosti SSSR (for Popov).  
(Rock drills—Hydraulic equipment)

POPOV, V. S., kand. tekhn. nauk

Wear-resistant hard facing of molds with horizontal lamellar  
electrodes. Svar. proizvod. no.10:17-20 0 '62. (MIRA 15:10)

1. Zaporozhskiy mashinostroitel'nyy institut.

(Hard facing)



GRIGOR'YEV, M.Yu., dotsent; POPOV, V.S., dotsent

Characteristics and mechanics of coal and gas outbursts in coal  
mines. Izv. vys. ucheb. zav.; gor. zhur. no.3:44-52 '60.  
(MIRA 14:5)

1. Kemerovskiy gornyy institut.  
(Coal mines and mining)

MYULLER, R. L.; POPOV, V.S.

Methane formation in coal in relation to outbursts of coal and  
gas in mines. Trudy Inst. gor. dela Sib. otd. AN SSSR no.3:204-  
224 '60. (MIRA 144)

(Mine gases) (Methane)

POPOV, V.S.

Permanent seminar on manufacture and use of measuring and computing  
equipment. Izv.tekh. no.4:64 Ap '61. (MIRA 14:3)  
(Measuring instruments) (Calculating machines)

POPOV, V. S. (Aspirant)

"An Investigation of Flash Butt Welding of Austenite Steel Pipe to a Pearlite Steel Pipe." Cand Tech Sci, Central Sci-Res Inst of Technology and Machine Building, 27 Dec 54. (VM, 17 Dec 54)

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

SO: SUM No. 556, 24 Jun 55





POPOV, V.S.

*Handwritten:* 2  
*Handwritten:* 2  
 Methods of Determining Residual Stresses in Butt Joints of  
 Tubes of Steels with Different Coefficients of Thermal Expansion. A. S. Gol'man and V. S. Popov (Zavodskaya Laboratoriya, 1956, 21, (6), 722-724). [In Russian]. Using as an example a butt joint between tubes of a pearlitic and an austenitic steel, a method of calculating residual stresses in this type of welded joint is developed. Results for any

steel tubes are presented. The method is restricted to thin-walled tubes.  $\alpha \neq \alpha'$

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*Handwritten:* Cent. Sci. Res. Inst. Technology and Machine Building

GEL'MAN, A.S., doktor tekhnicheskikh nauk, professor; POPOV, V.S., kandidat tekhnicheskikh nauk.

Investigating the flash butt welding of austenite steel pipe and perlite steel pipes. Trudy TSNIITMASH 76:43-78 '55. (MLRA 9:7)  
(Pipe, Steel--Welding)

GEL'MAN, A.S., doktor tekhnicheskikh nauk, professor; ~~POPOV, V.S.~~, kandidat tekhnicheskikh nauk.

Effect of the initial structure of 12Kh2MFB steel on its fusion welding.  
Stal' 16 no.3:241-243 Mr '56. (MLRA 9:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut mashinostroyeniya i metallorabotki.  
(Steel--Metallography) (Pipes, Steel--Welding)

POPOV, V.S.

~~13640~~

18

4E2C

13640 Etching Technique for Simultaneous Development of Austenitic and Pearlite Structures. V. S. Popov, Henry Brucher Translation No. 5891, 3 p. (From *Zhivitskaya Laboratoriya*, v. 22, no. 3, 1958, p. 317.) Henry Brucher, Atlanta, Calif.

A new etching technique which permits a simultaneous development of austenitic and pearlitic structures in composite welds.

RG up

*Popov, B.I.*

133-12-9/26

**AUTHORS:** Popov, V.S., Candidate of Technical Sciences, and  
Lyashchinskiy, B.I., Engineer.

**TITLE:** Crushing of Ferro-manganese by Means of an Electric Current  
(Drobleniye ferromargantsa elektricheskim tokom)

**PERIODICAL:** Stal', 1957, No.12, pp. 1097 - 1098 (USSR)

**ABSTRACT:** A method for primary crushing of ferromanganese produced in electric furnaces is proposed. It consists of simultaneously applying an electric current (AC or DC, high or low frequency) and weak mechanical forces (Fig.2) to ferromanganese lumps. The nature of the phenomenon of cracking of ferromanganese lumps on the passage of current is not quite clear, but it is thought to be related to localised heating of a small volume of the processed material to high temperatures. There are 2 figures and 2 Slavic references.

**ASSOCIATION:** Zaporozh'ye Machine-building Institute  
(Zaporozhskiy mashinostroitel'nyy institut)

**AVAILABLE:** Library of Congress  
Card 1/1

POPOV, V.S.; PONOMARENKO, Ye.P.

Technology of manufacturing bimetal inserts. Lit.proizv. no.3:37-38  
Mr '62.. (Laminated metals) (Bronze) (MIRA 15:3)

POPOV, V.S., kand.tekhn.nauk; PONOMARENKO, Ye.P., inzh.; LYASHCHINSKIY,  
B.I., inzh.; NEMZER, V.I., inzh.; VOKSHIN, I.I., inzh.

Replacing bronze by bimetal inserts in rolling mill spindles. Stal'  
22 no.3:255-256 Mr '62. (MIRA 15:3)

1. Zaporozhskiy mashinostroitel'nyy institut i zavod "Dneprospetsstal".  
(Rolling mills--Equipment and supplies)



POPOV, V.S.; DMITRICHENKO, N.S.

Durability of press mold plates during the press molding of  
magnesite and grog refractories. Ogneupory 27 no.3:127-130  
'62. (MIRA 15:3)

1. Zaporozhskiy mashinostroitel'nyy institut imeni V.Ya.Chubarya  
(for Popov).
2. Zaporozhskiy ogneupornyy zavod (for Dmitrichenko).  
(Plates, Iron and steel--Testing) (Firebrick)

POPOV, V.S.

New data on mineral deposits in the Ukraine according to geological prospecting materials in 1963. Geol. zhur. 24 no.2:3-9 '6'  
(MIRA 18.2)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete Ministrov UkrSSR.

BELEN'KIY, B.Z.; POPOV, V.S.

Device for converting resistance changes to proportional frequency  
changes. Avtom. i telem. 25 no. 9:733-736 My '64. (MIRA 17:9)

L 19446-65

ACCESSION NR: AP4047580

S/0103/64/025/010/1511/1518

AUTHOR: Popov, V. S. (Odessa, Leningrad); Nuzhdina, L. A. (Odessa, Leningrad); Skomorovskiy, L. V. (Odessa, Leningrad)

TITLE: Device for proportional conversion of resistance into period of electric oscillations

SOURCE: Avtomatika i telemekhanika, v. 25, no. 10, 1964, 1511-1518

TOPIC TAGS: resistance frequency converter

ABSTRACT: A theoretical and experimental investigation is presented of a modified Wien-bridge RC-oscillator, one of whose arms includes a thermistor (TP-2/0.5 type). Design formulas for such an oscillator are developed. Experimental curves of the transient time vs. control-resistance jump (up to 15 times) are supplied, as well as the dependence of the oscillation period on the control resistance (tabulated). Errors are evaluated. The same oscillator, with

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L 19446-65  
ACCESSION NR: AP4047580

minor changes, can be used for the conversion of small variations of resistance into relatively large variations of frequency (tensometer case). Orig. art. has: 3 figures, 26 formulas, and 1 table.

ASSOCIATION: none

SUBMITTED: 04Apr63

ENCL: 00

SUB CODE: IE

NO REF SOV: 003

OTHER: 000

Card 2/2

L 23807-65 EWT(1)/EWA(h) Pm-4/Feb

ACCESSION NR: AP5002322

S/0141/64/007/005/0903/0913

AUTHORS: Roshal', A. S.; Popov, V. S.

TITLE: Distributed coupler for a fast cyclotron wave

SOURCE: IVUZ. Radiofizika, v. 7, no. 5, 1964, 903-913

TOPIC TAGS: cyclotron wave, parametric amplifier, slow wave structure, distributed line, distributed coupler

ABSTRACT: Inasmuch as earlier papers on the subject do not contain any estimates of the signal bandwidth in which noise can be eliminated, the authors investigate the frequency characteristics and estimate the matching (noise elimination) bandwidth of a distributed unit for coupling with a fast cyclotron wave. The matching bandwidth is defined as the frequency region in which not less than half of the input signal power is transferred to the electron beam, and the noise elimination band is defined as the frequency region in

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L 23807-65

ACCESSION NR: AP5002322

which the beam input noise is attenuated to a specified level. Such a coupling unit is used for electron-beam parametric amplifiers. Assuming sinusoidal variation for all the components, it is shown that such a device is broadband only if its equivalent distributed line has a suitable dispersion. The matching band of such a device is  $0.8 \psi_0^{-1}$  ( $\psi_0$  -- necessary line length in cyclotron wavelengths) and is therefore close to the bandwidth of input devices of the resonator type. The noise elimination band, for a fast cyclotron wave, is several times smaller than the matching band, and depends on the required level to which the noise is to be attenuated. If the line possesses favorable dispersion and if in some frequency band the phase velocities of the fast cyclotron wave and of the wave in the line coincide, the band can be broadened. The transfer of noise from the slow cyclotron wave to the fast wave is proportional to  $(4\psi_0)^{-2}$ . The energy exchange between the fast cyclotron synchronous waves is proportional to  $(4\psi_0)^{-1}$ , and is approximately equal to

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L 23807-65

ACCESSION NR: AP5002322

$(4\psi_0)^{-2}$  in the middle of the band. The presence of noise in the line reduces the signal/noise ratio at the output by an amount equivalent to half the total cold loss in the line. The calculations were performed with an electronic computer. "The authors thank V. M. Lopukhin for valuable advice." Orig. art. has: 4 figures and 51 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: 08Jul63

ENCL: 00

SUB CODE: EC

NR REF SOV: 000

OTHER: ' 009

Card

3/3



L 22184-65 EWT(1) AFWL/AEDC(a)/SSD/RAEMA LJP(c) S/0056/64/047/006/2229/2246  
ACCESSION NR: AP5001846

AUTHOR: Popov, V. S.

TITLE: Analytical properties of the amplitude with respect to momentum transfer,  
and the asymptotic behavior of the scattering phase shifts <sup>B</sup>

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 6, 1964,  
2229-2246

TOPIC TAGS: scattering amplitude, momentum transfer, phase shift, Regge pole,  
potential scattering <sup>21</sup>

ABSTRACT: The author considers the asymptotic behavior of the phase shifts  $\delta_l$  or the corresponding partial amplitudes  $f_l(E)$  in the limiting case when the orbital angular momentum  $l$  approaches infinity, by analyzing in general form the connection between the nearest singularity  $z_0$  of the scattering amplitude  $f(E, z)$  and the partial amplitudes. It is shown first how the problem of determining the asymptotic behavior for the partial amplitudes for large  $l$  can be reduced from an expansion in Legendre polynomials to a simpler power series. This is done without assumptions concerning dispersion relations with respect to momentum transfer.

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L 22184-65

ACCESSION NR: AP5001846

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for two different cases: 1)  $z_0$  outside the physical region  $-1 \leq z \leq 1$ , and 2)  $z_0$  on the edge of the physical region,  $z_0 = \pm 1$ . The results are then applied to the investigation of the analytic properties of the amplitude for potential scattering. The singularity nearest to the physical region is found for the amplitude for scattering by a potential that behaves like  $(\mu r)^{-\nu} \exp[-(\mu r)^\alpha]$  as  $r \rightarrow \infty$  ( $\mu$  - pion mass,  $r$  - interaction radius). The Froissart inequality (Phys. Rev. v. 123, 1053, 1961) is derived on the basis of the result in a much simpler method than given in the literature, and possibilities for further strengthening the inequality are discussed. "I thank I. Ya. Pomeranchuk, I. S. Shapiro, and N. N. Meyman for an interesting discussion and several interesting remarks. I also thank E. I. Dolinsky for reading the manuscript and suggesting several improvements." Orig. art. has: 42 formulas and 1 figure.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GKAE (Institute of Theoretical and Experimental Physics GKAE)

SUBMITTED: 18Jun64

ENCL: 00

SUB CODE: NP, GF

NR REF SOV: 009

OTHER: 015

Card 2/2

POPOV, V.S.

Measurement of a.c. voltage and current using nonstable inertial  
nonlinear elements. Elektrichestvo no.7:76-78 J1 '63.  
(MIRA 16:9)

1. Odesskiy politekhnicheskii institut.  
(Electric measurements)

POPOV, V.S.

Results of prospecting operations carried out by the Main Geological-Prospecting Administration of the Ukrainian S.S.R. in 1962. Geol.zhur. 23 no.1:10-15 '63. (MIRA 16:4)

1. Glavnoye upravleniye geologii okhrany nadr pri Sovete Ministrov UkrSSR. (Ukraine--Prospecting)

POPOV, V.S.; CHERNYSHEVA, V.V.

Recording ratiometer. Izm.tekh. no.2:33-34 P '63. (MIRA 16:2)  
(Electric instruments)

SEMENENKO, N.P., akademik, otv. red.; SUBBOTIN, S.I., akademik, red.;  
TKACHUK, L.G., doktor geol.-miner. nauk, zam. otv. red.;  
LAZARENKO, Ye.K., red.; BELEVTSSEV, Ya.N., red. p. POPOV, V.S.,  
red.; SOLLOGUB, V.B., kand. geol.-miner. nauk, red.;  
ZAVIRYUKHINA, V.N., red.; MEL'NIK, A.F., red.; DAKHNO, Yu.B.,  
tekhn. red.

[Materials of the Fifth Conference of the Carpatho-Balkan  
Geological Association] Materialy V s"ezda Karpato-Balkanskoi  
geologicheskoi assotsiatsii. Kiev, Izd-vo Akad. nauk URSS,  
1962. 309 p. (MIRA 16:4)

1. Karpato-Balkanskaya geologicheskaya assotsiatsiya. 5. s"yezd.
2. Akademiya nauk Ukr.SSR (for Semenenko, Subbotin).  
(Carpathian Mountains--Geology)  
(Balkan Mountains--Geology)

POPOV, V.S.

A frequency doubler using thermal energy converters. Sbor.rab.  
po vop.elektromekh. no.7:331-334 '62. (MIRA 16:1)  
(Electric current rectifiers) (Frequency changers)

POPOV, V.S.

Ratiometer circuit with a heater resistance. Izm.tekh. no.8:  
46-49 Ag '62. (MIRA 16:4)  
(Electric instruments)



BLOKHINTSEV, L.D.; DOLINSKIY, E.I.; POPOV, V.S.

Complex characteristics of direct nuclear reaction amplitudes.  
Zhur.eksp.i teor.fiz. 43 no.6:2290-2298 D '62. (MIRA 16:1)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo  
universiteta i Institut teoreticheskoy i eksperimental'noy  
fiziki.

(Nuclear reactions)

BLOKHINTSEV, L.D.; DOLINSKIY, E.I.; POPOV, V.S.

Feynman amplitudes for nonrelativistic processes.  
Zhur. eksp. i teor. fiz. 43 no.5:1914-1926 N '62.(MIRA 15:12)

1. Institut yadornoy fiziki Moskovskogo gosudarstvennogo  
universiteta i Institut teoreticheskoy i eksperimental'noy  
fiziki AN SSSR.

(Graphic methods) (Nuclear reactions)

~~POPOV, Viktor Stepanovich; MANSUROV, Nikolay Nikolayevich~~  
[deceased]; NIKOLAYEV, Sergey Aleksandrovich;  
ZHUKHOVITSKIY, B.Ya., dots., kand. tekhn.nauk, red.;  
VORONIN, K.P., tekhn. red.

[Electric engineering] Elektrotekhnika. Izd.7., perer. 1  
dop. Moskva, Gosenergoizdat, 1962. 543 p. (MIRA 16:8)  
(Electric engineering)

S/115/63/000/002/003/008  
E194/E155

AUTHORS: Popov, V.S., and Chernysheva, V.V.

TITLE: A recording ratiometer

PERIODICAL: Izmeritel'naya tekhnika, no.2, 1963, 33-34

TEXT: The authors, in the Institut elektromekhaniki (Institute of Electromechanics), have developed a recording ratiometer for measuring and recording the ratios of d.c. and a.c. currents and voltages. The indicator which reacts to the ratio of the measured magnitudes is based on metallic indirectly-heated resistors. This arrangement overcomes the common design difficulty of low operating torque in accurate recording variometers (self-balancing rheostats). The ratiometer is a bridge, two arms of which are ohmic resistors while the other two are the indirectly-heated resistors. The currents to be compared are passed through the heaters associated with the latter resistors. One heater is shunted by the variometer slider arm, and the other by a fixed resistance. An a.c. motor which drives the slider is supplied through a phase-sensitive amplifier across the bridge diagonal. The whole circuit is shown in Fig.1. The balance conditions are

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A recording ratiometer

S/115/63/000/002/003/008  
E194/E155

given by:

$$R_4 = \frac{R_3 R_{H2}}{R_{H1} + R_3 \left(1 - \frac{I_1}{I_2}\right)} \cdot \frac{I_1}{I_2} \quad (1)$$

(see diagram for notation). If  $R_{H1} \gg R_3 (1 - I_1/I_2)$  the variometer scale is nearly uniform. When comparing two voltages the heaters are connected in series with the corresponding resistances  $R_3$  and  $R_4$  and then the balance condition is:

$$R_4 = R_{H2} \left( \frac{R_{H1} + R_3}{R_{H1}} \cdot \frac{U_2}{U_1} - 1 \right) \quad (2)$$

The scale is uniform if  $U_2/U_1 (R_3 + R_{H1}) \gg R_{H1}$ . The resistances  $R_1$  and  $R_2$  are preferably of metal and in a prototype were made of platinum strip each heated by a nichrome spiral in a sealed but not evacuated glass tube. Initial balance is secured by adjusting the resistance  $R_3$ . It was found that if both the measured currents varied by  $\pm 50\%$  from the nominal value of 50 mA the initial error did not exceed 0.5%. The readings were independent

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A recording ratiometer

S/115/63/000/002/003/008  
E194/E155

of frequency in the heater circuits (i.e. of the compared magnitudes) within the range 20 c/s to 100 kc/s. Supply voltage variations affect all four bridge arms equally and so cancel. Ambient temperature variations of  $\pm 10^\circ\text{C}$  cause an error not exceeding 0.3%. There are 2 figures.

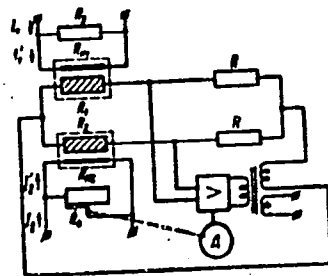


Fig.1

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POPOV, V.S., kand.tekhn.nauk; LYASHCHINSKIY, B.I., inzh.

Investigating resistance of abrasive wear. Metalloved. i  
term. obr. met. no.1:51-53 Ja '63. (MIRA 16:2)

1. Zaporozhskiy mashinostroitel'nyy institut.  
(Steel—Testing) (Mechanical wear)

POPOV, V.S.

Some causes for a change in the coal resources in the Donets Basin. Razved. i okh. nedr 28 no.9:27-35 S '62. (MIRA 15:9)

1. Glavnoye geologo-razvedochnoye upravleniye UkrSSR.  
(Donets Basin--Coal geology)



KORNDORF, Sergey Ferdinandovich; POPOV, Vsevolod Aleksandrovich;  
BEREZINA, Ye.P., red.; ARKISOVA, T.I., red.

[Industrial electronics] Promyshlennaya elektronika. Mo-  
skva, Vysshaia shkola, 1964. 225 p. (MIRA 17:12)

ZAROCHENTSEV, Ye.V.; POPOV, V.A.

Energy spectra and resonance frequencies of a biaxial  
antiferromagnetic. Fiz. tver. tela 6 no.8:2489-2494  
Ag '64. (MIRA 17:11)

1. Fiziko-tekhnicheskiy institut nizhikh temperatur AN UkrSSR,  
Khar'kov.

BLOKHINTSEV, L.D.; DOLINSKIY, E.I.; POPOV, V.S.

Analytic properties of nonrelativistic diagrams. Zhur.  
eksp. i teor. fiz. 42 no.6:1636-1646 Je '62. (MIRA 15:9)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo  
universiteta i Institut teoreticheskoj i eksperimental'noy  
fiziki AN SSSR.

(Nuclear reactions) (Graphic methods)

S/129/63/000/001/015/017  
E073/E492

AUTHORS: Popov, V.S., Candidate of Technical Sciences,  
Lyashchinskiy, B.I., Engineer

TITLE: Investigation of the resistance-to-abrasive-wear

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov,  
no.1, 1963, 51-53

TEXT: Three steels, 12XH3A (12KhN3A), 2X13 (2Kh13) and X12Φ1 (Kh12F1), were investigated to facilitate selection of the best material for die plates. The hardness of these steels was substantially unaffected by the heat treatment. Under normal shop conditions, the steel Kh12F1 (after oil-quenching from 1050 to 1075°C and tempering at 180°C) showed the highest resistance-to-wear. Steel 2Kh13 (after carburizing and hardening) showed the lowest abrasive wear-resistance although its chromium content was the same as steel Kh12F1. Different types of wear were observed when the steels 2Kh13 and Kh12F1 were subjected to the action of a moving refractory. In addition to ordinary wear caused by chip-removal, steel 2Kh13 developed local pitting corresponding to the places where loose carbide particles accumulated. Steel 12KhN3A,  
Card 1/2

POPOV, V.S.

Angular movement pickup. Priborostroenie no.5:16-17 My '62.  
(MIRA 15:5)

(Transducers)

S/C56/62/043/005/045/058  
B125/3104

AUTHORS: Blokhintsev, L. D., Dolinskiy, E. I., Popov, V. S.  
TITLE: On the Feynman amplitudes for nonrelativistic processes  
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 5(11), 1962, 1914-1926

TEXT: The nonrelativistic limit  $F_{nl}^{(0)}$  of the relativistic amplitude  $F_{nl}^r$  of an arbitrary Feynman graph is ascertained for the case when the kinetic energy transferred in the outer vertexes and the energy liberated at each vertex of the graph is low with respect to the virtual particles. All inner lines of the Feynman graph are to represent scalar particles.  $l$  is the number of independent closed contours. Results: For  $\beta \ll 1$ ,  $F_{nl}^r$  can be written as the sum of the principal term  $F_{nl}^{(0)}$  of the expansion of  $F_{nl}^r$  with respect to the small parameter  $\beta$ , and of the relativistic correction  $F_{nl}^{(1)}$ . For  $n > 5l/2$ ,  $F_{nl}^{(0)}$  coincides with the nonrelativistic amplitude having

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On the Feynman amplitudes for...

3/056/62/043/005/045/050  
B125/B104

singularities with respect to the nonrelativistic invariants. For  $n < 5l/2$ ,  $F_{nl}^{(0)}$  depends only on the mass of the virtual particles, but not on the nonrelativistic kinematic invariants. The entire dependence on the nonrelativistic invariants and all nonrelativistic singularities are contained in the small relativistic correction  $F_{nl}^{(1)}$ . At  $n = 5l/2$ , the amplitude  $F_{nl}^{(0)}$  depends logarithmically on the nonrelativistic invariants. The order of magnitude of the relativistic corrections to the principal terms in the expansion of the amplitude  $F_{nl}^R$  with respect to  $\beta$  is given by

$$F_{nl}^R = F_{nl}^{(0)} (1 + \delta_{nl}); \tag{24}$$

$$\delta_{nl} \sim \begin{cases} \beta^2 & \text{при } 2n - 5l = 0 \\ \beta & \text{при } 2n - 5l = \pm 1 \\ \beta^2 \ln \beta & \text{при } 2n - 5l = \pm 2 \\ \beta^2 & \text{при } 2n - 5l = \pm 3, \pm 4, \dots \end{cases} \tag{25}.$$

On the Feynman amplitudes for...

S/056/62/043/005/045/058  
B125/B104

The graphs with  $n < 51/2$  are not essential in describing nonrelativistic processes. They contribute nothing to the mechanism of the direct nuclear reactions. The multidirectional  $\beta$  graphs are always nonrelativistic. For the triangular graphs for the reactions of the type  $A+x \rightarrow B+y$  (L. D. Blokhintsov et al. ZhETF, 42, 1636, 1962) the nonrelativistic approximation has an accuracy of  $\sim 10\%$  in a large range of energies of the incident particles. In convergent  $\beta$  graphs, the relativistic propagators for particles possessing a spin can be replaced by propagators not depending on spin. There are 4 figures and 1 table. ✓

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University); Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

SUBMITTED: June 18, 1962

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May/Jun 53

POPOV, V. S.

USSR/Geology - Tectonics

"Principal Outlines of the Geological Structure of the Northern Borderland of the Donets Basin," V. S. Popov and I. Yu. Lankin

Byul Mosk Ob Isp Prir, Ot Geol, Vol 28, No 3, pp 3-27

Discuss peculiarities of the geological structure of the northern borderland of the Donets Basin. The borderland represents, according to the data presented, a most strongly upheaved zone in the region of connection inside the Donets flexure and ridge.

267T83

BABINETS, A.Ye., otv. red.; VARAVA, K.N., red.; MESYATS, I.A., red.;  
POPOV, V.S., red.; RUDENKO, F.A., red.; ULASOVICH, N.M., red.;  
FALOVSKIY, A.A., red.; TSAPENKO, I.I., red.; MEL'NIK, A.F.,  
red.; LISOVETS, A.M., tekhn. red.

[Transactions of the First Ukrainian Hydrogeological Conference]  
Trudy Ukrainskogo gidrogeologicheskogo soveshchaniia, 1st.  
Kiev, Izd-vo Akad. nauk USSR. Vol.1. [Hydrogeology] Voprosy  
gidrogeologii. 1961. 463 p. (MIRA 15:5)

1. Ukrainskoye gidrogeologicheskoye soveshchaniye. 1st.
2. Institut geologicheskikh nauk Akademii nauk Ukrainskoy SSR  
(for Babinets, Varava, Falovskiy, TSapenko). 3. Kiyevskiy gos-  
darstvennyy universitet im. T.G.Shevchenko (for Rudenko).  
(Ukraine--Water, Underground)

POPOV, V.S.

Geological prospecting in the Ukraine; results of 1960 and basic trends of 1961. Geol.zhur. 21 no.3:3-30 '61. (MIRA 14:7)

1. Golovgeologiya URSR.  
(Ukraine—Prospecting)

POPOV, V.S.

Development of mineral resources of the Ukrainian S.S.R. in the light of the decisions of the 22d Congress of the CPSU. Geol. zhur. 22 no.3:3-13 '62. (MIRA 15:7)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete Ministrov USSR.

(Ukraine—Mines and mineral resources)

POPOV, V.S.

Brief report on the results of geological prospecting and problems  
for 1962. Geol.zhur. 22 no.2:3-6 '62. (MIRA 15:4)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete  
Ministrov USSR.  
(Ukraine--Prospecting)

POPOV, V.S.; SAYDAKOVSKIY, L.Ya. [Saidakovs'kyi, L.IA.]

Conference of the Organizations of the Main Geological-Prospecting Administration of the Ukrainian S.S.R. on the Stratigraphy of Upper Permian and Triassic Sediments of the Dnieper-Donets Lowland and Donets Basin. Geol.zhurn. 22 no.2:114-115 '62. (MIRA 15:4)

1. Glavnoye upravleniye geologii i okhrany neдр pri Sovete Ministrov USSR.

(Dnieper-Donets Lowland--Geology, Stratigraphic)  
(Donets Basin--Geology, Stratigraphic)

BLIZNYUK, V.F.; GAVRISH, V.K.; GRITSAY, Ye.T.; KEL'BAS, B.I.; KLITICHENKO, I.F.;  
MARTYNOV, A.A.; PALIY, A.M.; POPOV, V.S.; SHAYKIN, I.M.; YARCHENKO, L.M.

Stratigraphic boundaries and oil and gas potentials of the  
Upper Cretaceous sediments in the Dnieper-Donets Lowland.  
Geol. nefti i gaza 8 no.4:28-35 Ap '64. (MIRA 17:6)

1. Glavnoye upravleniye geologii i okhrany neдр pri Sovete  
Ministrov UkrSSR, Kiyevskaya ekspeditsiya tresta Ukregeofizrazvedka,  
Kiyevskaya ekspeditsiya Ukrainского nauchno-issledovatel'skogo  
geologorazvedochnogo instituta i Chernigovskaya ekspeditsiya  
Ukrainского nauchno-issledovatel'skogo geologorazvedochnogo  
instituta.

PROCESSES AND PROPERTIES

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LL LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VU VW VX VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ

117 AND THE OTHERS

PROCESSES AND PROPERTIES

Magnesioferrite on the lower Tunguska and Dimppe  
 V. S. Popov *Izv. Akad. Nauk SSSR, Ser. Khim. Nauk, 1961, No. 10, 157-60 in English (1961:1567).*  
 The mineral is dark steel gray, with a higher luster than magnetite, almost approaching that of anthracite. It is magnetic and crystallizes in the cubic system. The compn. is (Mg, Fe)O.(Al, Fe)<sub>2</sub>O<sub>3</sub>. It is accompanied by carbonates, quartz and chalcidony. A complete analysis is given. J. S. Joffe

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ASSOCIATED METALLURGICAL LITERATURE CLASSIFICATION

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117 AND THE OTHERS



21

*la*

The Yar deposits of brown coal. V. S. Popov and I. V. Gebler. *Vestnik Zapadno-Sibirskogo Gos. Universiteta* 1939, No. 3, 40-7; *Khim. Referral. Zhur.* 1940, No. 3, 27; cf. C. A. 36, 82167.—The Yar deposits (Tomsk region in Siberia) of brown coal are described and their chem.-tech. characteristics are given. Two samples contained C 65.61, 61-63; H 5.98, 6.41; O 21.61, 20.93; N 1.07, 0.93; resins 30, 60%; S was less than 1%—ash averaged 14.71%, and volatile substances approx. 60%. The av. yield of tar is 20% (up to 29.4% for some samples). On extrn. the coal yields large amts. of bitumens.

W. R. Henn

ASB-31A METALLURGICAL LITERATURE CLASSIFICATION

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SECTION

LETTERS

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MINING

AND

METALLURGY

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RUSSIA



70/00/1/5  
 ABRAMOV, S.K., kand.tekhn.nauk; AVERSHIN, S.G., prof., doktor tekhn.nauk;  
 AMMOSOV, I.I., doktor geol.-min.nauk; ANDRIYEVSKIY, V.D., inzh.;  
 ANTROPOV, A.N., inzh.; APANAS'YEV, B.L., inzh.; BRESMAN, Ya.V.,  
 inzh.; BLOKHA, Ye.Ye., inzh.; BOGACHEVA, Ye.M., inzh.; BUKRINSKIY, V.A.,  
 kand.tekhn.nauk; VASIL'YEV, P.V., doktor geol.-min.nauk; VINOGRADOV,  
 B.G., inzh.; GOLUBEV, S.A., inzh.; GORDIYENKO, P.D., inzh.; GUSEV, N.A.,  
 kand.tekhn.nauk; DOROKHIN, I.V., kand.geol.-min.nauk; KALMYKOV, G.S.,  
 inzh.; KASATOCHKIN, V.I., doktor khim.nauk; KOROLEV, I.V., inzh.;  
 KOSTLIVTSEV, A.A., inzh.; KRATKOVSKIY, L.F., inzh.; KRASHENINNIKOV, G.F.,  
 prof. doktor geol.-min.nauk; KRUKUNOV, L.A., inzh.; LEVIT, D.Ye., inzh.;  
 LISITSA, I.G., kand.tekhn.nauk; LUSHNIKOV, V.A., inzh.; MATVEYEV, A.K.,  
 dots., kand.geol.-min.nauk; MEMPURISHVILI, G.Ye., inzh.; MIRONOV, K.V.,  
 inzh.; MOLCHANOV, I.I., inzh.; NAUMOVA, S.N., starshiy nauchnyy sotrudnik;  
 NEKIPELOV, V.Ye., inzh.; PAVLOV, F.F., doktor tekhn.nauk; PANYUKOV, P.N.,  
 doktor geol.-min.nauk; POPOV, V.S., inzh.; PYATLIN, M.P., kand.tekhn.  
 nauk; RASHKOVSKIY, Ye.S., inzh.; ROMANOV, V.A., prof., doktor tekhn.  
 nauk; RYZHOV, P.A., prof., doktor tekhn.nauk; SELYATITSKIY, G.A., inzh.;  
 SPERANSKIY, M.A., inzh.; THERENT'YEV, Ye.V., inzh.; TITOV, N.G., doktor  
 khim.nauk; GOKAREV, I.F., inzh.; TROYANSKIY, S.V., prof., doktor geol.-  
 min.nauk; FEDOROV, B.D., dots., kand.tekhn.nauk; FEDOROV, V.S., inzh.  
 [deceased]; KHOMENOVSKIY, A.S., prof., doktor geol.-min.nauk; TROYANOV-  
 SKIY, S.V., otvetstvennyy red.; TERPIGOREV, A.M., red.; KRUKUNOV, L.A.,  
 red.; KUZNETSOV, I.A., red.; MIRONOV, K.V., red.; AVERSHIN, S.G., red.;  
 BURTSEV, M.P., red.; VASIL'YEV, P.V., red.; MOLCHANOV, I.I., red.;  
 RYZHOV, P.A., red.; BALABDIN, V.V., inzh., red.; BLOKH, I.M., kand.  
 tekhn.nauk, red.; BUKRINSKIY, V.A., kand.tekhn.nauk, red.; VOLKOV, K.Yu.,  
 inzh., red.; VOROB'YEV, A.A., inzh., red.; ZVONAREV, K.A., prof. doktor  
 tekhn.nauk, red. (Continued on next card)

ABRAMOV, S.K.--- (continued) Card 2.

ZDANOVICH, V.G., prof., doktor tekhn.nauk, red.; IVANOV, G.A., doktor  
geol.-min.nauk, red.; KARAVAYEV, N.M., red.; KOROTKOV, G.V., kand.geol.-  
min.nauk, red.; KOROTKOV, M.V., kand.tekhn.nauk, red.; MAKKAVEYEV, A.A.,  
doktor geol.-min.nauk, red.; OMEL'CHENKO, A.N., kand.tekhn.nauk, red.;  
SENDERZON, E.M., kand.geol.-min.nauk, red.; USHAKOV, I.N., dots., kand.  
tekhn.nauk, red.; YARLOKOV, V.S., kand.geol.-min.nauk, red.; KOROLKVA,  
T.I., red.izd-va; KASHAIKINA, Z.I., red.izd-va; PROZOROVSKAYA, F.L.,  
tekhn.red.; NADEINSKAYA, A.A., tekhn.red.

[Mining; an encyclopedia handbook] Gornoe delo; entsiklopedicheskii  
spravochnik. Glav. red. A.M.Terpigorev. Moskva, Gos.nauchno-tekhn.  
izd-vo lit-ry po ugol'noi proryshl. Vol.2. [Geology of coal deposits  
and surveying] Geologiya ugol'nykh mestorozhdenii i marksheiderskoe  
delo. Redkolegiya tozã S.V.Troianskiy. 1957. 646 p. (MIRA 11:5)

1. Chlen-korrespondent AN SSSR (for Karavayev)  
(Coal geology--Dictionaries)

POPOV, V.S.

Unique complex ore deposit in the Kansai ore basin. Dokl. AN Uz.  
SSR no.1:15-19 '58. (MIRA 11:5)

1. Institut geologii AN Uz SSR. Predstavleno akad. AN UzSSR A.S.  
Uklonskim.

(Kansai--Ore deposits)

POPOV, V.S.

Apophyllite of the Central Kansay. Dokl. AN Uz. SSR no.6:15-19 '58.  
(MIRA 11:9)

1. Institut geologii AN UzSSR. Predstavleno akademikom AN UzSSR  
A.S. Uklonskim.  
(Kansay region--Apophyllite)

POPOV, V.S.

Peculiarities of sericites in the southwestern Kara-Mazar Mountains.  
Uzb.geol.zhur. no.5:6-10 '59. (MIRA 13:5)

1. Sredneaziatskiy nauchno-issledovatel'kiy institut geologii i  
mineral'nogo syr'ya, Tashkent.  
(Kara-Mazar Mountains--Sericite)

POPOV, V.S.

Brucite and hydromagnesite in the Okurtau Range (southwestern  
Kara-Mazar Mountains). Zap.Uz.otd.Vses.min.ob-va no.13:  
112-119 '59. (MIRA 13:7)  
(Okurtau Range--Brucite)  
(Okurtau Range--Hydromagnesite)



POPOV, V.S.

Stevensite from Karamazar. Dokl. AN Tadjh. SSR 3 no. 2:7-13 '60.  
(MIRA 14:4)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete  
Ministrov Uzbekskoy SSR. Predstavleno chlenom-korrespondentom  
AN Tadjhikskoy SSR R.B. Baratovym.  
(Kurama Range--Stevensite)

POPOV, V.S.

Age of metamorphic rocks in the Gornyy Altai. *Izv.vys.ucheb.  
zav.;geol.i razv. 3 no.2:16-22 F '60.* (MIRA 15:5)

1. Moskovskiy geologorazvedochnyy institut imeni S.Ordzhonikidze.  
(Altai Mountains—Rocks, Crystalline and metamorphic)

POPOV, V. S., Cand Geol-Min Sci -- "Mineralogy of the poly-  
metallic deposit <sup>of</sup> in Central Kansay <sup>in</sup> ~~and~~ Karamazare." Tash-  
kent, 1961. (Inst of Geol Acad Sci UzSSR. Central Asian  
Sci Res Inst of Geol and Min Raw Materials <sup>of</sup> of the Min of  
Geol and <sup>Mineral Conservation</sup> ~~Protection of Min Reserves~~ of USSR) (KL, 8-61,  
234)

- 116 -

POPOV, V.S.; SADYKOV, T.S.

Authigenous tourmaline from rock salt deposits of the Khodzhamumin.  
Dokl.AN SSSR 145 no.5:1121-1122 '62. (MIRA 15:8)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut geologii i  
mineral'nogo syr'ya. Predstavleno akademikom N.M.Strakhovym.  
(Khodzhamumin, Mount—Tourmaline)

POPOV, V.S.

Authigenic tourmaline in halogen sediments. Lit. i pol. iskop. no.3:  
158-160 My-Je '64. (MIRA 17:11)

1. Sredneaziatskiy nauchno-issledovatel'skiy institut geologii i mineral'no-  
nogo syr'ya, Tashkent.

POPOV, Viktor Stepanovich, kand. tekhn. nauk; Prinsipal uchastiye  
AGAPOV, V.M., kand. tekhn. nauk; KASATKIN, A.S., prof.,  
retsensent; SHUROVA, Yu.P., red.; FRIDKIN, L.M., tekhn.  
red.

[Electrical measurements and instruments] Elektrotekhnichesk  
ieskie izmereniia i pribory. Izd.7., perer. Moskva,  
Gosenergoizdat, 1963. 543 p. (MIRA 17:2)

L 14048-66 EWT(m)  
ACC NR: AT6002504

DIAAP

SOURCE CODE: UR/3138/65/000/379/0001/0022

AUTHOR: Perelomov, A. M.; Popov, V. S.

ORG: none

TITLE: The Green function for Coulomb potential

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 379, 1965. O funktsii Grina dlya kulonovskogo potentsiala I, 1-22

TOPIC TAGS: particle symmetry, unitary symmetry, particle physics, hydrogen, Green function, Coulomb repulsion force

ABSTRACT: This paper is a continuation of a previous article by the authors which will appear in the Magazine of Experimental and Theoretical Physics. New expansions of the Coulomb Green function are derived in the orthogonal system of functions to replace the Schwinger expansion where  $E > 0$ . The expansion is carried out within the framework of irreducible representations of the Lorentz group (which is a group for latent dynamic symmetry of the hydrogen atom). It is shown that only  $D(0, \rho)$  representations of the main series of infinite-dimensional unitary represen-

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L 14049-66 EWT(1)/EWT(m)/EWP(t)/EWP(b) IJP(c) JD  
ACC NR: AT6002503

AUTHOR: Perelomov, A. M.; Popov, V. S.

SOURCE CODE: UR/3138/65/000/378/0001/0022

ORG: none

TITLE: Latent symmetry of the hydrogen atom

2144155

37  
38  
15+1

SOURCE: USSR. Gosudarstvennyy komitet po ispol'zovaniyu atomnoy energii. Institut teoreticheskoy i eksperimental'noy fiziki. Doklady, no. 378, 1965. O skrytoy simmetrii atoma vodoroda, 1-22

TOPIC TAGS: particle symmetry, unitary symmetry, quantum number, hydrogen, particle physics

ABSTRACT: Previous studies have shown that all states of the discrete spectrum of the hydrogen atom may be described by irreducible representations of the group  $O(4)$ . The authors consider extension of this concept within the framework of group theory for a unified description of both the discrete and continuous spectrum. This cannot be achieved in  $O(4)$  symmetry since all its irreducible representations are finite-dimensional (as those of any compact group, i. e. of any continuous group with finite volume). Therefore the "complete" group for dynamic symmetry covering both

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L 1455-66 EWT(d), EWT(1) IJP(c)

ACC NR: AP6004936

SOURCE CODE: UR/0056/66/0050/001/0179/0198

AUTHOR: Perelomov, A. M.; Popov, V. S.ORG: Institute of Theoretical and Experimental Physics (Institut teoreticheskoy i eksperimental'noy fiziki)

TITLE: The Lorentz group as a dynamic symmetry group of the hydrogen atom

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 1, 1966, 179-198

TOPIC TAGS: group theory, Lorentz transformation, Green function, quantum mechanics

ABSTRACT: The latent (dynamic) symmetry of the hydrogen atom is considered from the point of view of group theory. It is shown that transition from the compact group  $O(4)$  to its noncompact analog (Lorentz group) makes it feasible to describe the discrete as well as the continuous spectrum. In this case the wave functions of the continuous spectrum with a given energy  $E > 0$  lead to an infinite-dimensional irreducible representation  $D(0, \rho)$  of the Lorentz group ( $\rho = \sqrt{2/E}$ ), which belongs to the fundamental series of the unitary representations. Wave functions of discrete spectrum states with a principal quantum number  $n$  lead to a finite-dimensional representation  $D((n-1)/2, (n-1)/2)$  of the Lorentz group. A wave-function symmetry specific for the Coulomb potential is found for continuous and discrete states. The special case of states with  $E = 0$  when the Lorentz group degenerates into the Galilean group

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SEMENENKO, N.P., akademik, otv. red.; TKACHUK, L.G., doktor geol.-  
miner. nauk, zam. otv. red.; VYALOV, G.S., red.; FORPIE'YEV  
V.B., red.; SUBBOTIN, S.I., red.; LAZARENKO, Ye.K., red.;  
BELEVTSEV, Ya.N., red.; POPOV, V.S., red.; SOLLOGUB, V.B.,  
doktor geol.-miner. nauk, red.; CHEKHOVICH, N.Ya., red.;  
BYCHKOVA, R.I., red.

[Materials of the Sixth Congress of the Carpatho-Balkan  
Geological Association; reports of the Soviet geologists]  
Materialy VI s"ezda Karpato-Balkanskoi geologicheskoi as-  
sotsiatsii; doklady sovetskikh geologov. Kiev, Naukova  
dumka, 1965. 461 p. (MIRA 18:10)

1. Karpato-Balkanskaya geologicheskaya assotsiatsiya. 6.s"yezd.
2. AN Ukr.SSR (for Semenenko). 3. Chlen-korrespondent AN Ukr.SSR  
(for Lazarenko, Belevtsev, Popov).

PARULOMOV, A.M.; POFCOV V.S.

Radio operators for military groups, Pskov, v. 1, p. 100-101.  
teoret. fiz. 1 no. 6 1958 p. 105.

(SIA 18:10)

BAKHTEYEV, M.K.; LIFSHITS, I.F.; POPOV, V.S.; STROGANOV, A.N.

Age of intrusive rocks in the southern part of the Tokrau  
synclinalorium (central Kazakhstan). Vest. Mosk. un. Ser. 4;  
Geol. 20 no.4:39-46 JI-Ag '65. (MIRA 18:9)

1. Kafedra istoricheskoy i regional'noy geologii Moskovskogo  
universiteta.

POPOV, V.S.; NUZHDINA, L.A.; SKOMDROVSKIY, L.V.

Device for the proportional conversion of a resistance into an  
electrical oscillations period. Avtom. i telem. 25 no.10:  
1511-1518 0 '64. (MIRA 17:12)

S/115/61/000/004/010/010  
B129/B206

AUTHOR: Popov, V. S.

TITLE: Permanent seminary for problems of design and use of  
measuring- and digital computers

PERIODICAL: Izmeritel'naya tekhnika, no. 4, 1961, 64

TEXT: The first Conference of the Permanent Seminary for the problems mentioned in the title was held in Leningrad in December 1960. The seminary was attended by over 200 delegates from schools of higher learning, institutes of the Academy of Sciences of the USSR, scientific research institutes, plants and other organizations, who dealt with problems of design and use of measuring- and digital computers. 16 lectures were delivered. I. G. Gol'dreyer reported on "Selectively stabilizing measuring- and digital computers", and discussed a new principle for the construction of computers with uninterrupted operation. These are an automatically controlled static voltage divider which changes the partition coefficient in such a way that one of the quantities introduced remains unchanged at the output. The installations permit arbitrary

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Permanent seminary for...

S/115/61/000/004/010/010  
B129/B206

algebraic operations with a maximum error of  $\pm 1\%$ . V. S. Popov dealt with automatic measuring devices with heated resistances for measuring various electrical and nonelectrical quantities. About 20 different quantities can be measured with it. V. B. Smolov and Ye. P. Ugryumov dealt with the construction of small semiconductor devices of the time-pulse type with low voltage and temperature error compensation. A. F. Fokin described a device for calculating potential fields by simulation on electrically conductive paper. N. S. Blat investigated a computer for calculating physical processes with recording on a paper tape. P. I. Kotlyarov investigated problems of manual feeding of digital computers with simultaneous conversion of the feeding into the binary code. V. P. Mikhaylychev investigated converters of the type "wave-digit". L. P. Gorokhov studied problems of the "angular code" converters. V. P. Shagurin investigated "voltage digit" converters made from transistors. G. I. Gil'man and K. M. Chugunov described an electronic measuring converter for the conversion of thermocouple signals and signals from resistance thermometers into standard d.c. signals. I.G. Gol'dreyer, M. L. Petrova, and O. P. Khvostov reported on "Photoelectric instruments using selective compensation circuits". They described instruments

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S/115/61/000/004/010/010  
B129/B206

Permanent seminary for...

developed at the OKB Ministerstva geologii i okhrany nedr SSSR (Experimental Design Office of the Ministry of Geology and Minerals USSR). S. M. Mandel'shtam dealt with problems and theory of remote measuring and conversion of the angle of rotation into a code. S. V. Shalayev investigated the interpretation of observations of gravitational fields and magnetic fields by means of electronic digital computers. I. G. Gol'dberg and S. M. Mandel'shtam reported on "Basic trends of the development of measuring computers". Yu. I. Nikol'skiy described a simulating computer for the conversion of potential fields. Ye. P. Balashov, I. A. Nazarov, V. B. Smolov, A. L. Perel'man, and V. M. Sternin reported on electronic computers for calculating the stations of acoustic logging. The resolutions by the Conference pointed out ways for improving and coordinating scientific research in the field of measuring-computer technology.

Card 3/3



AKHUNDOV, A.A.; KARUMIDZE, G.S.; KRASAVTSEVA, G.M.; POPOV, V.T.

Apparatus for radiochemical investigations in an IRT-2000 reactor  
channel. Atom. energ. 14 no.4:412-414 Ap '63. (MIRA 16:3)  
(Radiochemistry) (Nuclear reactors)

L. 58478-65 ENG(j)/ENT(m)/EPF(c)/ENP(j)/T/EWA(h)/EWA(c)/EWA(l) Pc-4/Pr-4/Peb RM  
ACCESSION NR: AP5015241 UR/0286/65/000/009/0023/0023  
541.15:547.313.2

AUTHOR: Glushnev, V. Ye.; Kolbanovskiy, Yu. A.; Patalakh, I. I.; Polak, L. S.;  
Popov, V. T.; Shakhray, V. A.

TITLE: Radiation-induced synthesis of organic compounds with various functional groups. Class 12, No. 170503

SOURCE: Byulleten' izobreteniy i tovarnykh znakov no. 9, 1965, 23

TOPIC TAGS: radiation, radiation induced synthesis

ABSTRACT: An Author Certificate has been issued for a radiation-induced synthesis of organic compounds having various functional groups, such as carboxylic acids, amines, nitro and nitroso compounds, thio compounds, alcohols, etc. The method consists in the ionizing irradiation of a reaction mixture comprising a monomer, such as ethylene, and a reactant, such as CO<sub>2</sub>, NH<sub>3</sub>, NO<sub>2</sub>, NO, H<sub>2</sub>S, SO<sub>2</sub>, H<sub>2</sub>O, etc., which determines the type of the derivative formed. To increase the radiation yield and to obtain a compound having the desired molecular weight, the reaction mixture is irradiated in the presence of a catalyst, e.g., aluminum oxide or silica gel.

[SM]

Card 1/2

L 58478-65

ACCESSION NR: AP5015241

ASSOCIATION: none

SUBMITTED: 12Jun63

ENCL: 00

SUB CODE: GC, *UP*

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4019

*lla*  
Card 2/2

S/204/62/002/002/005/007  
I060/I242

AUTHORS: Topchiyev, A.V., Polak, L.S., Glushnev, V.Ye.,  
Popov, V.T., Timofeyev, V.D., Glazunov, P.Ya.,  
and Ryabchikova, G.G.

TITLE: Radiation-thermal cracking of petroleum hydrocarbons

PERIODICAL: Neftekhimiya, v.2, no.2, 1962, 196-210

TEXT: This is the first in a series of papers reporting on the basic problems of the radiation-thermal cracking (RTC) process. Investigation deals with the following subjects: 1. RTC of heptane under static conditions; 2. RTC in continuous process in a decreasing field; 3. RTC in a continuous process in a uniform field; 4. Influence of pressure on RTC; 5. RTC in a mixed field of  $n$  and  $\gamma$  radiations; 6. Calculation of kinetics, mechanism, and thermodynamic parameters of RTC, and its comparison with other types of cracking and pyrolysis.

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TOPCHYEV, A.V.; POLAK, L.S.; GLUSHNEV, V.Ye.; POPOV, V.T.; TIMOFEEV, V.D.;  
GLAZUNOV, P.Ya.; RYABCHIKOVA, G.G.

Radiation-induced and thermal cracking of petroleum hydrocarbons.  
Neftekhimiia 2 no.2:196-210 Mr-Apr '62. (MIRA 15:6:

1. Institut neftekhimicheskogo sinteza AN SSSR i Institut fizicheskoy  
khimii AN SSSR.

(Cracking process) (Hydrocarbons)

GORDEYEV, N.P.; POPOV, V.T.

Refractories manufacture in the Hungarian Peoples' Republic.  
Ogneupory 25 no.1:46-48 '60. (MIRA 13:6)

1. Vsesoyuznyy institut ogneuporov.  
(Hungary--Refractories industry)

MORIN, Yu.F.; POPOV, V.U., kand.ekonom.nauk

Increasing labor productivity. Leh.prom. no.4:80-83 O-D '62.  
(MIRA 16:5)

1. Khersonskiy khlopchatobumazhnyy kombinat (for Morin).  
(Kherson--Cotton manufacture)

6  
7

POPOV, V.V., arkhitektor

Planning and building large-panel houses on collective farms.  
Trudy RISI no.4:27-35 '55. (MIRA 12:1)  
(Rostov Province--Farm buildings) (Concrete blocks)



SOV/91-59-2-2/33

AUTHORS: Popov, V. V., and Engel', G. A., Engineers

TITLE: The Factory-Like Impregnation of Wood under Local Conditions  
(Zavodskaya propitka drevesiny v mestnykh usloviyakh)

PERIODICAL: Energetik, 1959, Nr 2, pp 3 - 6 (USSR)

ABSTRACT: The service time of the wooden elements of electric and communication power lines, well-impregnated with oil anti-septics, reaches up to 50 years, provided that wood was subjected to drying of the alburnum and the pith to such an extent that the humidity did not exceed 20%. The salvaged old wooden elements of the lines, such as the poles, can be utilized up to 50% in the form of smaller wooden components, which necessitates new impregnation. ORGRES has designed an impregnating unit usable under local conditions. One such unit was assigned to every district of the power and communication network. The article describes the structural features, operational process and operational cost of such an impregnating plant. It needs only three attendants, and its optimal capacity can be 3000 m<sup>3</sup> of wood per three-shift workday. It states, that the expenses involved in the construct-

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SOV/91-59-2-2/33

The Factory-Like Impregnation of Wood under Local Conditions

ion of such a plant would be compensated for in about 1½ years, through low operational cost, recurrent use of old wood in smaller and smaller forms, and elimination of the need to use railroads for transportation of wood to and from standard impregnating plants. There is one photo, one table, one graph and one diagram.

Card 2/2

STEPANOV, Petr Fedorovich; TOPOROV, Gennadiy Nikolayevich; POPOV, V.V.  
red.

[Urov's disease in Transbaikalia and ways for preventing it]  
Urovskaia bolezn' v Zabaikal'e i puti ee profilaktiki. Chita,  
1960. 32 p. (MIRA 13:12)  
(TRANSBAIKALIA--ARTHRITIS)

GUMANSKIY, Boris Mikhaylovich, prof., doktor geologo-mineral.nauk;  
KOMAROV, Nikolay Stepanovich, dotsent, kand.geologo-mineral.  
nauk; POPOV, V.V., prof., doktor geologo-mineralog.nauk, red.;  
SHNEYEROV, S.A., red.izd-va; SHLIKHT, A.A., tekhn.red.

[Vibrational drilling of soils] Vibroburenie gruntov. Moskva,  
Izd-vo M-va kommun.khoz.RSFSR, 1959. 129 p. (MIRA 12:12)  
(Boring)



GREMYATSKIY, M.A., prof.; IVANOV, A.V., prof., red.; NAUMOV, N.P., prof.,  
red.; GEPNER, V.G., prof., red.; MATVEYEV, B.S., prof., red.; POPOV, V.V.,  
prof., red.; STRAUTMAN, F.I., prof., red.; NIKOL'SKIY, G.V., prof.,  
red.; SHIBANOV, N.V., dots., red.

[Program in human anatomy for biology and soil biology faculties in  
state universities] Programma po anatomii cheloveka dlia biologi-  
cheskikh i biologo-pochvennykh fakul'tetov gosudarstvennykh  
universitetov. [Moskva] Izd-vo Mosk.univ., 1956. 10 p. (MIRA 11:3)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego obrazovaniya.  
(ANATOMY, HUMAN--STUDY AND TEACHING)

LYUBARSKAYA, A.M.; POPOV, V.V.

Standardization of recording electric measuring instruments.  
Standartizatsiia 25 no.6:29-32 Je '61. (MIRA 14:6)  
(Electric instruments--Standards)

POPOV, Viktor Vasil'yevich, assistant

Dynamic stability of a generator with longitudinal-transverse excitation. Izv. vys. ucheb. zav.; elektromekh. 4 no.12:44-55 '61.

(MIRA 15:1)

1. Kafedra elektricheskikh mashin Leningradskogo politekhnicheskogo instituta.

(Electric generators)



S/196/61/000/012/024/029  
E194/E155

AUTHORS: Shevchenko, G.I., Borzenko, I.M., and Popov, V.V.

TITLE: A valve-type (ionic) frequency-changer for  
supplying induction motors

PERIODICAL: Referativnyy zhurnal, Elektrotehnika i energetika,  
no.12, 1961, 24, abstract 12K 130. (Tr. Mosk.  
energ. in-ta, no.34, 1961, 378-398)

TEXT: At the request of the Kombinat iskusstvennogo volokna  
(Artificial Fibres Combine) the Kafedra promyshlennoy  
elektroniki Moskovskogo energeticheskogo instituta (Department  
of Industrial Electronics of the Moscow Power Engineering  
Institute) has developed an ionic frequency-changer for 50/150 c/s,  
25 kVA, for supplying the electrically-driven spindles of  
spinning machines in viscose manufacture. The frequency-changer  
is based on thyratrons type TP-6/15 (TR-6/15). The rectifier and  
invertor are connected in a three-phase bridge circuit. The  
rectifier is controlled by an electronic-impulse system. The  
invertor control system is based on transistors. The output

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S/194/61/000/012/082/097  
D273/D301

AUTHORS: Shevchenko, G. I. and Popov, V. V.

TITLE: System of circuit control of the inverter part of an ionic frequency converter

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 12, 1961, 26, abstract 12E146. (Tr. Mosk. energ. in-ta" 1961, no. 34, 370-377)

TEXT: A description is given of a system of circuit control of the inverter of an ionic frequency converter with a 3-phase output, built on a ПТ (PT) and designed to obtain output frequencies of 60 to 300 c/s in order to realize frequency lobing and a smooth change of velocity in fast asynchronous motors. The inverter of a frequency converter is based on thyratrons TP-6/15 (TR-6/15) in a 3-phase bridge circuit; the output power is up to 30 kvolts. The circuit control system consists of: 1) A main generator, used as a vibrator on a PT which provides pulses at a frequency 6 times that of the output converter; 2) a repeater coils circuit having 6

Card 1/2

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AUTHORS: Tarasov, V. S., Docent, Vazhnov, A. I., S/105/60/000/04/002/024  
Docent, Rakitskiy, Yu. V., Engineer, B007/B008  
Popov, V. V., Engineer, Semenova, L. N., Engineer

TITLE: Method of Investigating Dynamic Stability on Analog Computers 16

PERIODICAL: Elektrichestvo, 1960, Nr 4, pp 7 - 12 (USSR)

TEXT: The description of characteristics for the investigation of transients in 2 synchronous machines (Fig 1) working parallel to a net of infinite output over punctiformly distributed resistors is the purpose of the paper under review. It is assumed that the influence of the effective resistance of the stator circuits, and the transients caused by these resistances can be neglected. Synchronous machines with non-salient poles, with 2 symmetrical windings on the d- and q-axis, with a nonsaturated magnetic circuit, and controllable excitation are investigated. A number of successive modes of operation of the power network must be investigated to solve the problems of dynamic stability on an analog computer. The characteristics of these problems are indicated here. Formulas (1) to (10) written down under the above mentioned assumptions show that the structure of these formulas remains about the same for various modes of operation. It is therefore sufficient to set up the differential equations only for one mode of operation before the disturbance. The transition to short

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Method of Investigating Dynamic Stability on  
Analog Computers

S/105/60/000/04/002/024  
B007/B008

circuit and to the mode of operation after the disturbance is achieved by switching over, or switching off, respectively, the corresponding inlets and outlets of the circuit-scheme elements. Various time scales must be used in order to reproduce the various modes of operation with sufficient accuracy. A linear relation exists between the variables of the machine and the actual values when solving problems on computers. A nonlinear relation may also occur in a number of cases. In these cases it is not the proportionality factor of the variables of the machine and of the actual variables which forms the variable scale, but the proportionality factor of their differentials. The variable time scale is realized technically by connecting a relay group to the solution circuit. The contacts of these relays connect additional resistors to the inlets of the integrators, or cause a shunt of the relays. It is shown how to obtain sine-cosine functions for a wide range of argument variation. The characteristics for the solution of problems of dynamic stability with slight fading are investigated. It is shown that the smaller the fading in the power network to be simulated, the greater the error developing because of exterior and interior disturbances in the circuit scheme. The problem of selection of the multiplier type when solving the problems of dynamic stability is investigated. It is shown that a combination of electronic and electromechanic

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