KOMAROV, V.S.; POVOROZNYUK, L.I.; PLYUSHCHEVSKIY, N.I.; ZONOV, Yu.G.

Effect of acid treatment on the structure of clay minerals. Dokl. AN BSSR 9 no.7:450-453 Jl '65. (MIRA 18:9)

1. Institut obshchey i neorganicheskoy khimii AN Belorusskoy SSR.

POVROZNIK, V.I. (L'vov); VITVAR, I.V. (L'vov)

Restoring the reactive rods of ZIL-164, ZIL-130, and ZIL-164 automobiles. Stroi. truboprov. 9 no.10:29 O '64. (MIRA 18:2)

1. Rabotniki Stroitel'no-montazhnogo upravleniya No.7 tresta Ukrgaznefteстroy.

1. POVPRINSKIY YU.A.

2. USSR (600)

4. Sleep

7. Combined sleep and insulin theraty of schizophrenia, Zhur.nerv i psikh 53 no.1, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, unclass.

POVRZANOVIC, Aleksandar, inz.

Titanium and welding. Zavarivanje 5 no.11/12:266-270 D '62.

POVRZANOVIC, Aleksandar, ing. (Zagreb)

Influence of the oxide and of the purity of oxigen on the ability and speed of gas cutting. Zavarivac 4 no. 4:30-33 '59.

1. Strojarsko-brodogradevni fakultet Sveucilista u Zagrebu, Zagreb.

POVRZANOVIC,Aleksandar,ing., assistant.(Zagreb);

Built-up welding of hard metals in practice. Zavarivanje 3 no.4/5: 75-82 My '60

CERNIGOJ, B.; SELJAK, Z.; NOVAK, P.; PUST, J.; MUREN, H.; OPRESNIK, M.; KUHELJ, A.; HLEBANJA, J.; KRUSIC, B.; POVSE, R.; KRAUT, B.; PROSENC, V.; PRELOG, E.

Book reviews. Stroj vest 10 no.6:176-182 D '64.

ANDRIYEVSKIY, V.Ya., dotsent; D'YACHENKO, P.S., dotsent; POVSHEDNAYA, O.P.

Diagnosis of latent forms of mastitis in cows. Veterinariia 41 no.6:94-96 Je '64. (MIRA 18:6)

1. Belotserkovskiy sel'skokhozyaystvennyy institut.

POVSIC, Joze

Plenum of the Federation of Associations of Mathematicians, Physicists, and Astronomers of Yugoslavia. Obz mat fiz 11 no.3:140 O '64.

POVSIC, Joze

Franc Hocevar's contribution to the teaching of mathematics. Obz mat fiz 8 no.2:87-92 '61.

POVSIC, J.

13th Plenum of the Federation of Societies of Mathematicians and Physicists of Yugoslavia. Obz mat fiz 7 no.1:38-40 Mr '60. (EEAI 9:8)
(Yugoslavia--Mathematics) (Yugoslavia--Physics)

L 23128-66 EWT(m) DIAAP
ACC NR: AP6001568 (A) SOURCE CODE: UR/0120/65/000/006/0051/0057

AUTHOR: Serbinov, A. N.; Yakushev, V. P.; Rezvykh, K. A.; Marin, N. I.; Povsten[1], V. A.; Lutikov, V. K.; Doktorova, T. V.

ORG: Institute of Physics and Power Engineering, GKAE, Obninsk (Fiziko-energeticheskiy institut GKAE)

85
68
B

TITLE: Pulsed neutron generator

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1965, 51-57

TOPIC TAGS: neutron generator, pulsed neutron generator, pulse generator, deuteron, ion source, neutron

ABSTRACT: A new pulsed neutron generator constructed for physical studies is described in detail. Deuteron pulses are generated by a h-f type ion source which has a honeycomb extraction system. Both the source and its power supply are placed under an accelerating potential of 300 kv. Vacuum in the accelerating tube, 5×10^{-6} to 2×10^{-5} torr; for an average ion current of 14 μa at the target, the h-v source load current was 250 μa; repetition frequency, 3—1000 cps; neutron yield intensity, 10^{12} neutrons/sec in dT reaction; the highest observed target temperature, 100C.

Card 1/2 UDC: 621.039.555:539.125.5

A pulse ion current of 21 ma was obtained under the following conditions: accelerating voltage, 270 kv; repetition frequency, 1000 cps; h-f generator consumption, about 100 w; extracting-pulse amplitude, 11—13 kv; extraction delay, 6 μsec; discharge-pulse time, 8 μsec; extraction-pulse time, 1.4 μsec; target-current time, 1 μsec. "M. V. Sokolov took part in development and alignment; L. A. Kiseleva, L. I. Pashchenko, G. I. Abakumov, N. I. Ushakova, Ye. M. Avilova, Yu. P. Basov, and N. V. Volkov took part in designing. The authors wish to thank B. S. Novikovskiy and V. A. Romanov for their advice; and V. I. Maroke, I. S. Belomyttsev, M. V. Krivenkov, A. I. Malygin, Ye. F. Semenov, V. I. Burlaka, and L. A. Shimkevich for their help in alignment." Orig. art. has: 5 figures.

SUB CODE: 18 / SUBM DATE: 02Nov64 / ORIG REF: 002 / OTH REF: 001

L 10239-66 EWT(d)/EWT(l)/EWT(m)/EWP(w)/EPF(n)-2/EWP(v)/T-2/EWP(t)/EWP(k)/EWP(b)/
ACC NR: AP5024912 EWA(h)/ETC(m)-6 JD/WW/JG/EM UR/0382/65/000/003/0121/0126

AUTHOR: Avilova, E.M.; Doktorova, T.V.; Lutikov, V.K.; Marin, N.I.; Povsten', V.A.; Turchin, N.M. 36 B

ORG: None

TITLE: Design features and test results of conductional pumps

SOURCE: Magnitnaya gidrodinamika, no. 3, 1965, 121-126

TOPIC TAGS: magnetohydrodynamic pump, electromagnetic pump design, unipolar generator

ABSTRACT: Design features of several conductional (direct current electromagnetic induction) pumps developed by the authors are described. Results of tests and comments on actual use are also given. A unipolar direct current generator developed as a better power source for one of the pump types is also described. The larger electromagnetic induction pump operating on the principle of DC current conductance in a perpendicular steady magnetic field was designed to pump liquid metals, such as Na and the NaK alloy at temperatures of 850 - 1050°K. It delivers a metal flow of 7,000 cubic centimeters per second. The pump requires 10000 amperes at .6 volt, and has a winding of two turns of an (80x80)mm^2 cross-section. Details of the working section, pressure dependence upon flow at various current magnitudes, and the efficiency variation data are given. A maximum efficiency of 36% was attained at 6000 amperes and 6000 cm^3/sec.

UDC 538.4:621.689

Card 1/2

L 11239-66

ACC NR: AP5024912

The rectifiers usually used as power supply for these pumps (type ND 10000/5000 and ANG 5000/2500) require an exorbitantly large floor space; this led to the development of a compact unipolar generator of 11 kw d.c. power (15,000 amperes, .7 volt), with liquid metal (mercury) brushes. A description and a schematic drawing of the generator is given. In tests, the generator achieved an efficiency of 76%. For smaller liquid metal flows, of several cubic centimeters per second, - helical channel conductional pumps are quite appropriate. They have been designed to deliver e.g. 2 cm^3/sec. of liquid metal at 800°K, using a current of only 100 - 200 amperes. Therefore, their power requirements can be supplied by small compact rectifiers. The simplicity and reliability of these pumps recommend them for use e.g. in laboratories. Orig. art. has 7 figures.

SUB CODE: 13, 09/ SUBM DATE: 26Jan65/

SB

Card 2/2

L 62214-65 EWT(l)/EWP(m)/EPA(s)-2/EWI(m)/EPA(sp)-2/EPF(n)-2/EWG(v)/EPR/EPA(w)-2/
T-2/EWP(t)/EWP(b)/EWA(m)-2 Pd-1/Pe-5/Ps-4/Pt-7/Peb/Pi-4/Pu-4 DIAAP/IJP(c) JD/WW/JG

ACCESSION NR: AP5014183 UR/0382/65/000/001/0110/0114
538.4 : 621.313.333

AUTHOR: Avilova, Ye. M.; Doktorova, T. V.; Marin, N. I.; Povsten', V. A.; Turchin, N. M.

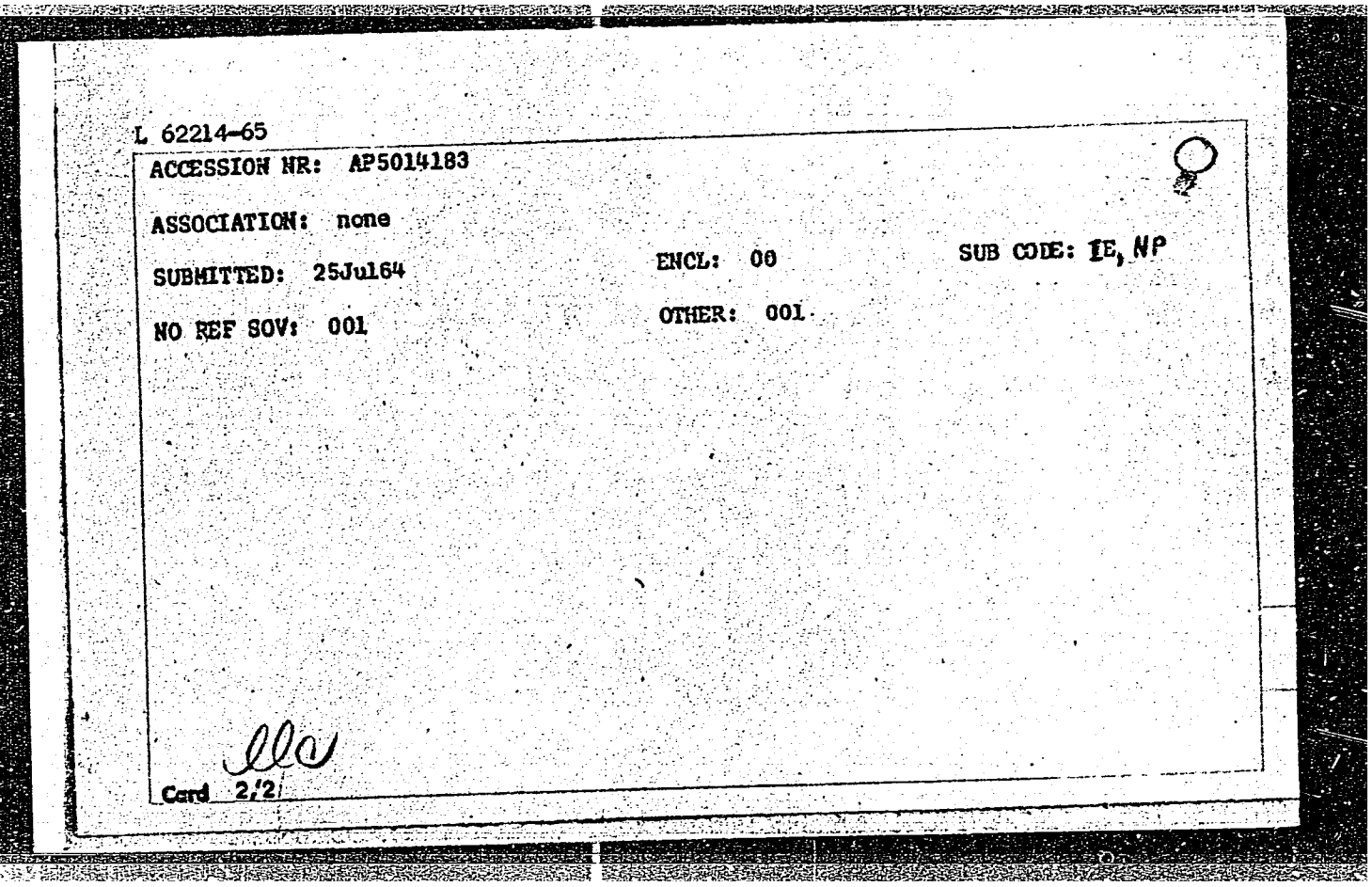
TITLE: Development and exploitation of helical induction pumps

SOURCE: Magnitnaya gidrodinamika, no. 1, 1965, 110-114

TOPIC TAGS: liquid metal pump, magnetohydrodynamics, radioactive material

ABSTRACT: The development and operation of helical induction pumps with large pumping rates (from 0.4 to 150 m^3/hr) is reported. The sustained operation of the Na-K pumps (also operating with Na only) in the 550°K to 680°K temperature regime was tested for 20,000 hours. Advantages and disadvantages of helical pumps are discussed. Specific units, ENIV-6 and ENIV-3 are described in detail and ENIV-3 performance is presented graphically. The largest unit ENIV-6 has a diameter of 53.7 cm and its length is 131 cm. These devices are also capable of pumping radioactive metals. Orig. art. has: 4 figures, 1 table.

Card 1/2



L 62214-65

ACCESSION NR: AP5014183

ASSOCIATION: none

SUBMITTED: 25Jul64 ENCL: 00 SUB CODE: IE, NP

NO REF SOV: 001 OTHER: 001

Card 2/2

AVILOVA, Ye.M.; DOKTOROVA, T.V.; LUTIKOV, V.K.; MARIN, N.I.; POVSTEN', V.A.; TURCHIN, N.M.

Construction features and test results of conduction pumps. Mag. gidr. no.3:121-126 '65. (MIRA 18:10)

AVILOVA, Ye.M.; DOKTOROVA, T.V.; MARIN, N.I.; POVSTEN', V.A.; TURCHIN, N.N.

Design and operation of helical induction pumps. Mag. gidr. no.1:110-114 '65. (MIRA 18:6)

L 39719-65 EPF(c)/EPF(n)-2/EPR/EPA(s)-2/EWT(m)/EPA(bb)-2/EWG(m)/EWP(b)/EWP(t)
Pr-4/Ps-4/Pt-10/Pu-4 IJP(c) DM/WW/JD/JG

ACCESSION NR: AP5009113 S/0089/65/018/003/0239/0242

AUTHOR: Marin, N. I.; Povaten', V. A.; Doktorova, T. V.; Avilova, Ye. M.

TITLE: Electromagnetic pumps for alkali metals

SOURCE: Atomnaya energiya, v. 18, no. 3, 1965, 239-242

TOPIC TAGS: electromagnetic pump, alkali metal, heat transfer agent, alkali metal alloy, liquid metal

ABSTRACT: Design characteristics, operating principles, and test data are presented for a series of small-size laboratory screw-type electromagnetic vertical pumps operating from a 3-phase a-c power source and intended for pumping liquid metals and alloys (K, NaK) which are used as heat transfer agents. Parameters of the following pumps of the same design but different size are given: ENIV-1, -2, -3, -4, -5, and -6, having capacities of 0.4, 2, 10, 50, 85, and 150 m^3/hr; pressures of 4.7, 2.5, 6, 5, 4.5, and 6 X 10^{-5} n/m^2; and working temperatures of 725, 875, 675, 675, 675, and 775K, respectively. The first 5 pumps of this series are already in operation.

Card 1/2

L 39719-65

ACCESSION NR: AP5009113

The ENIV-3 has operated for 20,000 hr at an NaK alloy temperature of 530K. The ENIV-1 has operated for 500 hr at 525—575K (liquid K), 10 hr at 815K, and 1 hr at 900K. Work is under way on improvements of the construction characteristics of the pumps to raise the operating temperature to 825—875K and higher. Orig. art. has: 1 table and 4 figures. [PS]

ASSOCIATION: none

SUBMITTED: 06Mar64 ENCL: 00 SUB CODE: IC, EE

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3229

Card 2/2

KURINYY, Petro; POVSTENKO, Oleksa

[Historical maps of Kiev] Istorichni pliani Kiieva. Avgsburg, 1947.
[4] p. 17 plates (MLRA 9:7)
(Kiev--Maps)

IVANOV, I.I.; POVSTYANOY, M.F.

Mechanization of accounting. Koks i khim. no.5:63 '63. (MIRA 16:5)
(Zaporozh'ye--Coke industry--Accounting) (Machine accounting)

[illegible] M.Ye. (Chelyabinsk, ul. Kommuny, d.36)

Operative treatment of post-burn contractures of the knee and talocrural joints. Ortop., travm. i protez. 26 no.3:19-25 Mr '65. (MIRA 18:7)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. G.D.Obraztsov) Chelyabinskogo meditsinskogo instituta (rektor - dotsent P.M.Tarasov).

POVSTYANOY, N.Ye.

Plastic repair with free skin grafts following brachial amputation. Ortop.,travm.i protez. 20 no.11:75-76 N '59. (MIRA 13:4)

1. Iz kliniki khirurgii (zaveduyushchiy - prof. T.Ya. Ar'yev) Saratovskogo meditsinskogo instituta.
(AMPUTATION)
(SKIN TRANSPLANTATION)

POVSTYANOY, N.Ye.

Dermatome for taking elongated skin grafts. Ortop.,travm.i protez. no.2:55-56 '62. (MIRA 15:3)

1. Iz Saratovskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii (dir. - dotsent Ya.N. Rodin).
(SKIN--TRANSPLANTATION)
(SURGICAL INSTRUMENTS AND APPARATUS)

POVSTYANOY, N.Ye., kand.med.nauk

Results after surgical therapy of burns. Khirurgiia 37 no.3:9-16 Mr '61. (MIRA 14:3)

1. Iz kliniki voyenno-polevoy khirurgii (zav. - prof. T.Ya. Ar'yev) Saratovskogo meditsinskogo instituta i Saratovskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii (dir. - dotsent Ya.N. Rodin).

(BURNS AND SCALDS) (SKIN GRAFTING)

POVSTYANOY, N.Ye.

Surgical removal of tattoos. Vest.derm.i ven. no.8:36-39 '61.
(MIRA 15:5)

1. Iz Saratovskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii (dir. - dotsent Ya.N. Rodin) i khirurgicheskoy kliniki Saratovskogo meditsinskogo instituta (i. o. zav. - dotsent M.I. Lytkin).

(TATOOING)

POVSTYANOY, N. Ye., Cand Med Sci (diss) -- "Conservative and operational treatment of burns". Saratov, 1960. 13 pp (Min Health RSFSR, Saratov State Med Inst), 200 copies (KL,No 14, 1960, 138)

POVSTYANOY, N.Ye.

Cicatricial contracture following burns of the trunk and shoulders. Khirurgiia 38 no.10:117-119 O '62. (MIRA 15:12)

1. Iz Saratovskogo nauchno-issledovatel'skogo instituta travmatologii i ortopedii (dir. - dotsent Ya.N. Rodin).
(BURNS AND SCALDS) (CONTRACTURE)

LYTKIN, M.I., dotsent; POVSTYANOY, N.Ye.

Possibility of the accretion of free skin flaps in transplating them to various tissues. Vest.khir. no.6:80-83 '61. (MIRA 15:1)

1. Iz khirurgicheskoy kliniki (zav. - prof. T.Ya. Ar'yev) Saratovskogo meditsinskogo instituta.
(SKIN--TRANSPLANTATION)

KITAYENKO, G.I, laureat Stanlinskoy premii, redaktor.POVYSHEV, A.D., inzhener; KHOKHLOV, A.I., inzhener, retsenzent;KONTOROVICH, A.I. tekhnicheskiy redaktor; FRUMKIN, P.S., tekhnicheskiy redaktor.

[Electrician's manual] Spravochnik elektromontazhnika.Moskva, Gos. nauchno-tekhn.izd-vo mashinostroitel'noi i sudostroitel'noi lit-ry. Vol. 2 1953. 275 p. [Microfilm] (MLRA 8:9)
(Electricity on ships) (Telegraph, Wireless- Installation on ships)

MAZUR, V.B.; POVYSHEV, A.S.

Markovo oil field. Geol. nefti i gaza 9 no.9:29-32 S '62. (MIRA 16:2)

1. Gosudarstvennyy trest po geologicheskim izyskaniyam na neft'v Vostochnoy Sibiri.
(Irkutsk Province—Petroleum geology)

GORBACHEV, V.P.; [illegible], S.N.; [illegible], A.S.

Methodology of oil search and exploration in the Irkutsk amphitheater. Geol.nefti i gaza 9 no.2:24-27 F '65.

(MIRA 18:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut prirodnogo gaza i trest Vostsibneftegeologiya.

33693
S/076/62/036/002/004/009
B119/B101

5.2430

AUTHORS: Skripov, V. P., and Povyshev, L. V. (Sverdlovsk)

TITLE: Excess enthalpy of solutions of light and heavy water

PERIODICAL: Zhurnal fizicheskoy khimii, v. 36, no. 2, 1962, 325 - 331

TEXT: The excess enthalpy, ΔH, of H_2O - D_2O solutions was determined at 25 and 45°C as dependent on the deuterium concentration in the solution. Measurements were conducted in a tilting calorimeter with a Pt resistance thermometer (measuring device: ППТВ (PPTV) potentiometer). The endothermic effect observed when mixing H_2O with D_2O, is due to the reaction $H_2O + D_2O = 2HDO$ (equilibrium constant of the reaction 3.80). The heat of formation, Δh, of one mole of HDO was measured to be 15.5 cal on the assumption that the solutions are ideal. Theoretical calculations with the aid of the standard enthalpies of HDO, H_2O, and D_2O, yielded $\Delta h = 28$ cal/mole. For similar calculations it is therefore necessary that these standard values be determined with greatest accuracy. At 25°C

Card 1/2

Excess enthalpy of solutions...

and an atomic fraction of the deuterium n_D = 0.50, ΔH is 7.65 ± 0.25 cal/mole, at 45°C, ΔH is 7.55 cal/mole. For determining the heat of exchange and estimating the temperature dependence of the equilibrium constants, the calorimetric method may be applied for systems with fast isotopic exchange. A paper by A. I. Brodskiy (Khimiya izotopov (Chemistry of isotopes), Izd-vo AN SSSR, M., 1957) is mentioned. There are 3 figures, 2 tables, and 5 references: 3 Soviet and 2 non-Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: April 23, 1960

Card 2/2

POVYSIL, Kvetoslav

Domestic railroad freight rates in the new management system.
Doprava 7 no.2:94-99 '65.

POVSTYANOY, N.Ye.

Some problems in taking free skin flaps and in the healing of donor sites. Ortop., travm. i protez. 21 no.11:21-25 '60. (MIRA 14:4)

(SKIN GRAFTING)

25183 Povysit' Kachestvo Ekonomicheskoy Deyatel'nosti Predpiyatiy. (Peredovaya). Avtomob. Prom-St', 1949, No.8, c.1-2

SO: Letopis' No. 33, 1949

POVZE, M.; PLATONOV, F., aspirant

What we gain from the loose housing of cattle. Tekh.v.sel'khoz. 19 no.5:4-5 My '59. (MIRA 12:7)

1. Predsedatel' kolkhoza imeni XX parts"yezda, Kuntsevskogo rayona, Moskovskoy oblasti (for Povze). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut ekonomiki sel'skogo khozyaystva (for Platonov).
(Dairy barns)

[illegible] M.I.); KOLACHUK, Yu.S.; POVZHITKOV, N.M.

Some functional and morphological changes in experimental disorders of the coronary circulation. Fiziol. zhur. [Ukr.] 10 no.3:342-350 My-Je '64. (MIRA 18:9)

1. Laboratoriya fiziologii krovoobrashcheniya Instituta fiziologii im. A.A.Bogomol'tsa AN UkrSSR, Kiyev, i Kafedra patologicheskoy anatomii Kiyevskogo meditsinskogo instituta im. akad. A.A.Bogomol'tsa.

POVZHITKOV, M.M. [Povzhytkov, M.M.]; GOLOV, D.A. [Holov, D.A.]

Determination of the minute volume of the blood using the thermo-dilution method. Fiziol.zhur. [Ukr.] 11 no.4:548-550 Jl-Ag '65. (MIRA 18:10)

1. Laboratoriya fiziologii krovoobrashcheniya Institute fiziologii im. Bogomol'tsa AN UkrSSR, Kiyev.

GUREVICH, M.I.; POZHITKOV, M.V.

An experimental study of some components of the pathogenesis of myocardial infraction. Cor Vasa 6 no.4:297-307 '64.

1. Bogomolets Institute of Physiology, Academy of Science, Kiev, U.S.S.R.

GUREVICH, M.I. [Hurevych, M.I.]; SIROTINA, M.F. [Syrotina, M.F.]; POVZHITKOV, M.M. [Povzhytkov, M.M.]

Changes in some hemodynamics and hematologic indices in experimental disorders of the coronary blood circulation. Fiziol. zhur. [Ukr.] 10 no.2:171-176 Mr-Ap '64. (MIRA 18:7)

1. Laboratoriya fiziologii krovoobrashcheniya Instituta fiziologii im. A.A.Bogomol'tsa AN UkrSSR, Kiyev.

GUREVYCH, M.I. [Hurevych, M.I.]; KVITNITSKIY, M.Ye. [Kvitnyts'kyi, M.IE.]; POVZHITKOV, M.M. [Povzhytkov, M.M.]

Spatial precardiac vectorcardiography in experimental myocardial infarct. Fiziol. zhur. [Ukr.] 11 no.1:52-57 Ja-F '65. (MIRA 18:7)

1. Laboratoriya fiziologii krovoobrashcheniy Instituta fiziologii im. A.A.Bogomol'tsa AN UkrSSR, Kiyev.

GUREVICH, M.I.; POVZHITKOV, M.M.; MANSUROV, T.

Characteristics of the basic hemodynamic indices in dogs, cats and rabbits. Fiziol. zhur. 51 no.8:974-977 Ag '65. (MIRA 18:7)

1. Laboratoriya fiziologii krovoobrashcheniya Instituta fiziologii imeni Bogomol'tsa AN UkrSSR, Kiyev.

GUREVICH, M.I.; POVZHITKOV, M.M.

Significance of changes in the vascular tonus in the development of hemodynamic disorders in experimental miocardial infarct. Biul. eksp. biol. i med. 58 no.8:22-26 Ag '64.

(MIRA 18:3)

1. Laboratoriya fiziologii krovoobrashcheniya (rukovoditel' - doktor med. nauk M.I. Gurevich) Instituta fiziologii imeni A.A. Bogomol'tsa (dir. - akademik AN UkrSSR A.F. Makarchenko) AN UkrSSR, Kiyev. Submitted Nov. 22, 1963.

POVZHITKOV, M.M.

Methodology of studying some hemodynamic indices in experimental research. Fiziol. zhur. [ukr.] 8 no.5:693-695 S-O '62. (MIRA 17:11)

1. Laboratoriya fiziologii krovotecheniya Instituta fiziologii im. Bogomol'tsa AN UkrSSR, Kiyev.

POVZHITKOV, M.M.

Characteristics of disorders in the contractile capacity of the heart in experimental myocardiac infarction. Vrach. delo no.9:45-49 S 63. (MIRA 16:10)

1. Laboratoriya fiziologii krovoobrashcheniya (rukovoditel' doktor med. nauk M.I.Gurevich) Instituta fiziologii imeni A.A.Bogomol'tsa AN UkrSSR i kafedra patologicheskoy fiziologii (zav. - prof. O.A.Bogomolets) Kiyevskogo instituta usovershenstvovaniya vrachey.
(HEART—INFARCTION) (BLOOD — CIRCULATION)

GUREVICH, M.I.; KVITNITSKIY, N.Ye.; KOCHEMASOVA, N.G.; POVZHITKOV, M.M.; LEVCHENKO, M.N.

Experimental study of the pathogenesis of myocardial infarction. Vrach.delo no.11:20-24 N '62. (MIRA 16:2)

1. Laboratoriya fiziologii krovoobrashcheniya (rukovoditel' - doktor med.nauk M.I. Gurevich) Instituta fiziologii imeni A.A. Bogomol'tsa AN UkrSSR.
(HEART—INFARCTION) (BLOOD—CIRCULATION, DISORDERS OF)

L 36218-66

ACC NR: AP5024163 SOURCE CODE: UR/0238/65/011/004/0548/0550

AUTHOR: Povzhitkov, M. M. ; Holov, D. O.

ORG: Laboratory of Physiology of Blood Circulation, Institute of Physiology im. O. O. Bohomol'yets, Academy of Sciences, UkrSSR, Kiev (Laboratoriya fiziolohyiyi krovobihu Instytutu fiziololohyiyi Akademyiyi nauk URSR)

TITLE: Determination of the instantaneous blood volume by the method of thermal dilution

SOURCE: Fiziolohichnyy zhurnal, v. 11, no. 4, 1965, 548-550

TOPIC TAGS: blood circulation, dye chemical, medical laboratory instrument, BLOOD

ABSTRACT: The method of thermal dilution has advantages over other methods in that it can be used in many pathological conditions where the colorimetric or other methods would be impossible. It is safe and can be completed within short periods of time. In this method, a 0.85% solution of sodium chloride kept at room temperature is used as an indicator. The switch system proposed by the authors permits the

Card 1/2

L 36218-66
ACC NR: AP5024163

use of the setup employed in dye indicator dilution studies. The formula for the calculation of thermal dilution and the wiring diagram are given. This method compares well with the dye dilution (T-1824 dye) method. The repeated values obtained on the source animal are fully reproducible. No actual experimental values are reported.

SUB CODE: 06/ SUBM DATE: 10Jan65/ ORIG REF: 000/ OTH REF: 006

Card 2/2

POVZHITKOV, M.M. [Povzhytkov, M.M.]

The technique of ballistocardiographic study of dogs. Fiziol. zhur. [Ukr.] 7 no.4:569-570 Jl-Ag '61. (MIRA 14:7)

1. Laboratoriya fiziologii krovoobrashcheniya Instituta fiziologii im. A.A.Bogomol'tsa AN USSR, Kiyev.
(BALLISTOCARDIOGRAPHY)

GUREVICH, M.I. [Hurevych, M.I.]; BERSHTEYN, S.A.; POVZHITKOV, M.M. [Povzhytkov, M.M.]

Correlation between tissue oxygen metabolism, hemodynamics and regional blood circulation. Fiziol.zhur. [Ukr.] 11 no.4:555-563 Jl-Ag '65. (MIRA 18:10)

1. Laboratoriya fiziologii krovoobrashcheniya Instituta fiziologii im. Bogomol'tsa AN UkrSSR, Kiyev.

POVZHITKOV, V.A.; TYAGIN, N.V.; GREBENNIKOVA, A.M.

Effect of ultrahigh impulse electromagnetic fields on the onset and course of pregnancy in white mice. Biul. eksp. biol. i med. 51 no.5:103-107 My '61. (MIRA 14:8)

1. Nauchnyye rukovoditeli: chlen-korrespondent AMN SSSR prof. A.V. Triumfov; prof. V.G. Butomo. Predstavlena deystvitel'nym chlenom AMN SSSR A.V. Lebedinskim.
(PREGNANCY) (ELECTROMAGNETISM--PHYSIOLOGICAL EFFECT)

BUTOMO, V. G., prof.; POVZHITKOV, V. A., prof.

The liver in pregnancy. Akush. i gin. no.4:?-12 '62.
(MIRA 15:7)

(LIVER) (PREGNANCY)

COUNTRY : USSR
CATEGORY : Cultivated Plants.
Grains. Legumes. Tropical Cereals.
ABS. JOUR. : RZhBiol., No. 3, 1959, No. 10876

AUTHOR : Zadoitsev, A. I., Bondarenko, V. I., Povzik, M. M.
INST. : All-Union Scientific Research Institute of Corn.
TITLE : Characteristics of the Overwintering of Winter Crops in 1955-1956 in the Steppe Regions of Ukraine.

ORIG. PUB. : Byul. Vses. n.-i. in-ta kukuruzy, 1957, No. 1, 21-27

ABSTRACT : The chief cause of the loss or thinness of the sowings in 1955/56 (data of Sinel'nikovo Plant Breeding and Experimental Station) was the low temperatures at the end of the third ten days of January and in the beginning of February. Data are cited on the results of overwintering and on the yield of winter wheat of different sowing periods, and also on the results of the overwintering of different wheat varieties. The minimum temperature of the atmosphere, on the soil surface and at the depth of the tiller

CARD: 1/2

COUNTRY :
CATEGORY :

APS. JOUR. : RZhBiol., No. 1959, No. 10876

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : nods. The most cold-resistant proved to be the following varieties of winter wheat: Odesskaya 16, Odesskaya 12 and Odesskaya 3. -- N. F. Kravtsova

CARD: 2/2

POVZIC, Joze

Problems of teaching mathematics in technical schools. Obz mat fiz 8 no.4:180-185 D '61.

ZADONTSEV, A.I., akademik; BONDARENKO, V.I., kand. sel'skokhoz.nauk; POVZIK, M.M.

Optimal soil moisture and productivity of wheat plants of various ages. Dokl. Akad. sel'khoz. nauk no.3:1-3 Mr '65.

(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut kukuruzy.

ACCESSION NR: AP4029380 S/0199/64/005/002/0377/0386

AUTHOR: Povzner, A.

TITLE: A theorem of existence in the large for a nonlinear system and the index of defect of a linear operator

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 5, no. 2, 1964, 377-386

TOPIC TAGS: differentiable function, Hilbert space, differential equation, nonlinear differential equation, linear operator, defect index

ABSTRACT: The paper discusses some of the connections which exist between the presence of existence theorems "in the large" for nonlinear systems of ordinary differential equations and the properties of the naturally associated linear operator. The author investigates the system of equations

$$\frac{dx_l}{dt} = X_l(x) \quad (l = 1, \ldots, n), \; x = (x_1, \ldots, x_n). \tag{1}$$

where Xi(t) is a once continuously differentiable function of t. Associated with the above system is an operator on all continuously differentiable functions of n variables with the L^2 norm; this operator is defined by: $Af = \sum X_l \frac{\partial f}{\partial x_l}$.

Card 1/2

ACCESSION NR: AP4029380

The main result of the paper is a necessary and sufficient condition that the system (1) have a solution "in the large". Orig. art. has: 20 formulas.

ASSOCIATION: none

SUBMITTED: 20Feb63	DATE ACQ: 28Apr64	ENCL: 00
SUB CODE: MA	NO REF SOV: 000	OTHER: 000

Card 2/2

POVZNER, A.

International Year of the Calm Sun. Nauka i tekh mladezh 16 no.1:37-40 Ja'64.

1. Chlen na Biuroto na Suvetskiia geofizicheski komitet.

POVZNER, A.D.

Activities of the Interdepartmental Committee on the Preparation for the International Geophysical Year under the auspices of the Presidium of the Academy of Sciences of the U.S.S.R. Mezhdunar. geofiz. god no.2:87-94 '57. (MIRA 11:1)
(International Geophysical Year, 1957-1958)

POVZENER, A.D.

In the Soviet Committee of the International Geophysical Year.
Mezhdunar. geofiz. god. no.3:103-110 '57. (MIRA 11:5)
(International Geophysical Year, 1957-1958)

POVZNER, A.D.

International Committee on Geophysics. Vest.AN SSSR 31 no.5:94-95 My '61. (MIRA 14:6)
(Geophysics—International cooperation)

POVZNER, A.D.

Decisions taken by the Special Committee of the International Geophysical Year during the period 1954-1957. Mezhdunar.geofiz.god no.4:60-88 '58. (MIRA 11:11)
(International Geophysical Year, 1957-1958)

AUTHOR: Povzner, A. D.

S/030/60/000/02/019/040
B008/B014

TITLE: Conference of the International Geophysical Committee

PERIODICAL: Vestnik Akademii nauk SSSR, 1960, Nr 2, pp 98-99 (USSR)

ABSTRACT: This is a brief information on the Conference of the International Geophysical Committee held in The Hague (Netherlands) from November 4 to 6, 1959. The reorganization of the I.G.Y. Special Committee of the International Geodetic and Geophysical Union started in May, 1959, has come to an end with the establishment of this committee. The new committee overtook all functions of the Special Committee. The International Geophysical Committee is represented by the International Geodetic and Geophysical Union, the International Astronomical Union, the International Radio Union, the International Union of Pure and Applied Physics, the Meteorological World Organization, and other institutions. V. V. Belousov, Corresponding Member of the AS USSR, was appointed President of the Committee. Other Soviet members of the Committee are S. N. Vernov, Corresponding Member of the AS USSR, V. G. Kort, Doctor of Geographical Sciences, and P. K. Yevseyev, Candidate of Physical and Mathematical Sciences and President of the World Center B_1. On the first session of the Committee it was decided

Card 1/2

that the two-year term during which the results of observations obtained from 1957 to 1959 would be subjected to a thorough analysis and theoretical study, will begin on January 1, 1960. The Committee adopted a resolution which appeals to the countries participating in the International Geophysical Year to maintain the level of geophysical observations attained in 1959 also during the years 1960 and 1961.

POVZNER, A.D.

International scientific unions and problems in the organization of cooperation after the completion of observations foreseen in the program of the International Geophysical Year. Mezhdunar. geofiz. god no.8:67-84 '60. (MIRA 13:6)
(Geophysics--International cooperations)

POVZNER, A.D.

Second meeting of the International Committee on Geophysics.
Vest.AN SSSR 30 no.7:84-85 Jl '60. (MIRA 13:7)
(Geophysics--International cooperation)

L 26097-65 EWT(1)/FCC/EWA(h) Po-4/Pq-4/Pae-2/Pt-10/Pi-4/Peb GW
ACCESSION NR: AP5006664 S/0030/64/000/010/0096/0097

AUTHOR: Povzner, A. D. 46

TITLE: Seventh regional conference on geophysics 34

SOURCE: AN SSSR. Vestnik, no. 10, 1964, 96-97 B

TOPIC TAGS: geophysic conference, international conference, seismology, earth magnetism, ocean dynamics

ABSTRACT: The Seventh Regional Conference on Geophysics, sponsored by the Interdepartmental Committee on Geophysics of the Academy of Sciences SSSR, was held in Moscow, 15-25 June 1964. The conference was attended by 30 Soviet scientists and more than 50 scientists from Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, the Mongolian People's Republic, and Poland. The purpose of these regional conferences, which are convened alternately in each participating country of the Socialist block, is to discuss those problems in geophysics which require cooperation and concerted action by these countries, and to review the achievements attained since the preceeding conference.

Card 1/4

The subjects discussed at the conference covered a wide range of topics, among them sun-earth interactions, ionospheric and electromagnetic variations, and the earth's crust and mantle. These studies will require using the latest geophysical and geodetic methods, including seismic magnetotelluric, geothermal, and tiltmeter observations. The need for coordination of efforts and results in various regions was emphasized.

A specific proposal was made to initiate a deep seismic sounding project to study the earth's crust and upper mantle in the Carpatho-Balkan region. Each participating country, assisted by an advisory group consisting of scientists from the countries concerned, is to conduct deep seismic soundings in those parts of the six planned international profiles which traverse their territories.

The Conference accepted recommendations to use a single standard scale for earthquake intensity compiled by S. V. Medvedev (SSSR), W. Schpochoor (GDR), and V. Karnik (Czechoslovakia); to create a regional center for processing seismic data which will issue 10-day operational bulletins; and to carry out a program for standardization of seismic appara-

tus. Recommendations were also made to supplement work carried out during the IQSY by expanding the ionospheric and geomagnetic station networks, and to coordinate and standardize the publication of data in a series of special yearbooks. Other proposals include initiating a study of ozone as an index of stratospheric circulation processes, undertaking studies in spectral actinometry and oceanography, centralizing geophysical studies within each country, and seeking the cooperation of the different countries in studies of the upper mantle and the deep structure of the earth's crust.

Objectives outlined for Baltic Sea and Atlantic Ocean studies emphasized the investigation of seasonal variations in circulation in the Bay of Guinea [sic] by the German Democratic Republic, and measurements of the spectral characteristics of wave elements in the Baltic Sea simultaneously from several ships. The next conference is scheduled to take place in the spring of 1966 in the German Democratic Republic.

L 26097-65

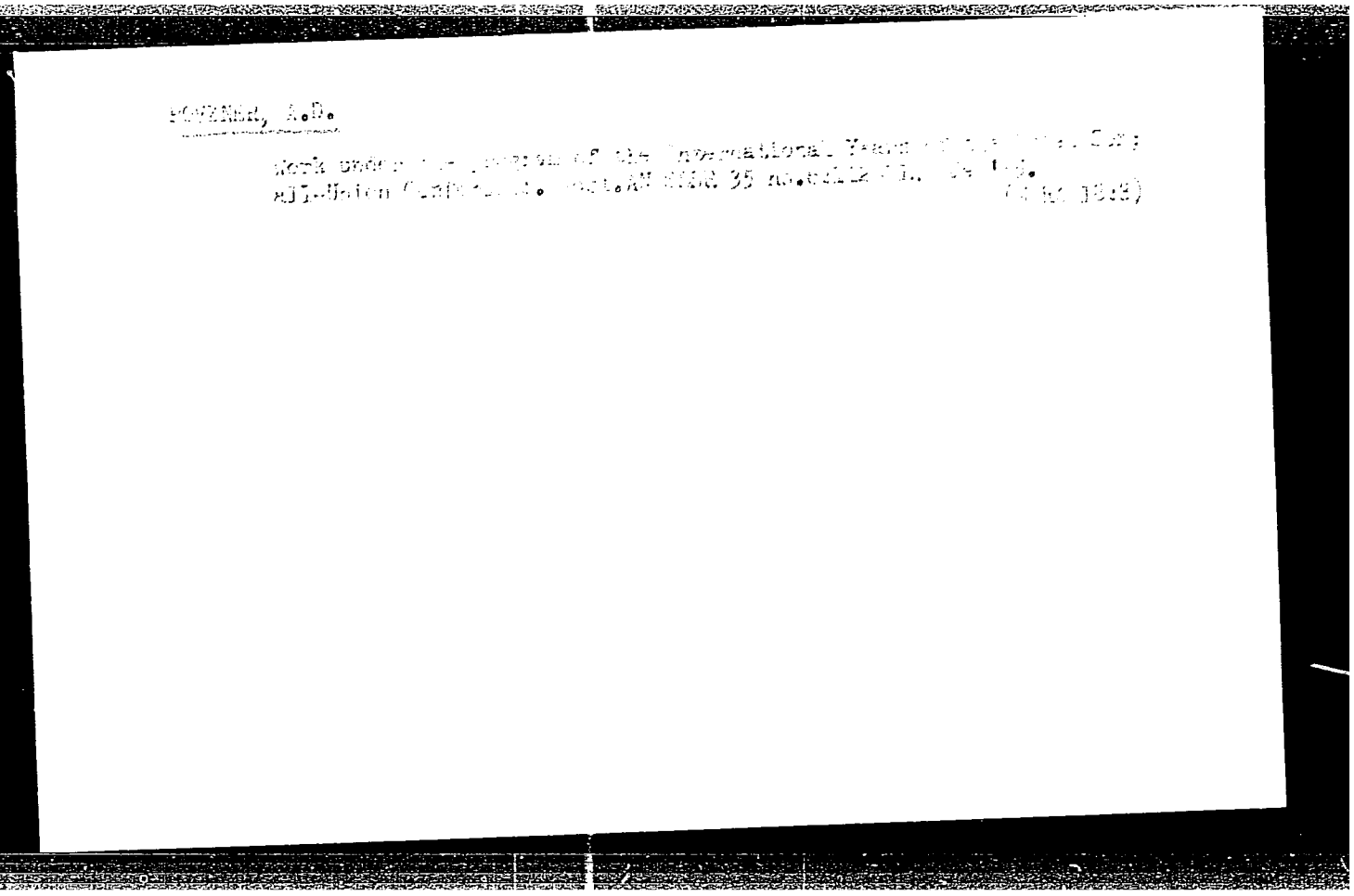
ACCESSION NR: AP5006664

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: ES, GO

NO REF SOV: 000 OTHER: 000 FSB v. 1, no. 3

Card 4/4



POVZNER, A.D.

History of the organization of the International Geophysical Year. Ist. i metod. est. nauk no.3:153-174 '65. (MIRA 18:12)

L 00727-67 EWT(1) GW

ACC NR: AP6021959 SOURCE CODE: UR/0030/66/000/006/0060/0063

28
B

AUTHOR: Povzner, A. D. (Scientist-secretary)

ORG: Interdepartmental Geophysics Committee, AN SSSR (Mezhduvedomstvennyy geofizicheskiy komitet AN SSSR)

TITLE: Experience in organizing research on a planet-wide scale

SOURCE: AN SSSR. Vestnik, no. 6, 1966, 60-63

TOPIC TAGS: geophysics, scientific information, scientific research

ABSTRACT: The increasing scope and volume of research in geophysics and related sciences require the gathering of pertinent data as well as the publication and distribution of the data on an international scale. Experience gained from previous international efforts, e. g., IGY and the International Year of the Quiet Sun, point up the importance of planning and coordination through an international agency. Each country should have a special agency to act as a representative to the international agency and to coordinate work internally. Bilateral agreements and mutual cooperation between countries within a specific geographic region should be implemented by the creation of joint stations and expeditions, the exchange of specialists, and the organization or regional centers. Prompt exchange and publication of data and results are important, and ordinary channels of exchange are not adequate.

SUB CODE: 08/ SUBM DATE: none UDC: 525.40

Card 1/1 afs

FOVZNER, A.

Theorem of existence in the large for a nonlinear system and the deficiency index of a linear [illegible]. Mat. Sbor. 5 no. 2:377-386 Mr-Ap '64.

POVZNER, A. Ya.

Aksiomaticheskoye Opredeleniye Dvuchlennykh Grupp Li. Kazan', Izv. Fiz. - Matem. O-Va (3), 9 (1937), 123-131.

Pro Znakhodzhennya Grupi Pidstavlen' Naymenshogo Stepenya, Izomorfnoi Daniy Abeleviy Grupi. Khrk., Zap. Matem. T-Va (4), 14 (1937), 151-158.

O Nil'potentnykh Gruppakh Lie, Khrk., Zap. Matem. T-Va (4), 16 (1940), 135-142.

O Pozitivnykh Funktsiyakh Na Abelevoy Gruppe. Dan, 28 (1940), 294-295.

SO: Mathematics in the USSR, 1917 -1947
edited by Kurosh, A. G.,
Markushevich, A. I.,
Rashevskiy, P. K.
Moscow - Leningrad, 1948.

POVSNER, A

Lewitan, B., and Povsner, A. Differential equations of the Sturm-Liouville type on the semi-axis and Plancherel's theorem. C. R. (Doklady) Acad. Sci. URSS (N.S.) 52, 479–482 (1946).

Consider the equation $u_{xx}-u_{yy}-[\rho(x)-\rho(y)]u=0$, $u(x,0)=f(x)$, $u_y'(x,0)=0$, where $\rho(x)$, $f(x)$ are even. If the solution is written in the form $u(x,y)=T_x^y f(x)$, then T^y is a family of linear operators on the functions f. The authors study properties of the operators T^y extended to the space L of integrable functions on $(0,\infty)$. The operator T^y is a generalized translation [Lewitan, same C. R. (N.S.) 47, 3–6 (1945); these Rev. 7, 126] and, as a function of y, is strongly continuous in both L and the Hilbert space H of square integrable functions on $(0,\infty)$. It is observed that the general spectral theorem for the ring of operators of the form $A\varphi=\int_0^\infty T_x^y f(x)\varphi(y)dy$ ($\varphi\in H$) becomes a theorem of Plancherel type when the spectral function is differentiable.

C. E. Rickart (New Haven, Conn.).

Source: Mathematical Reviews, Vol 8, No. 5

POVSNER, A.

Povsner, A. On equations of the Sturm-Liouville type on a semi-axis. C. R. (Doklady) Acad. Sci. URSS (N.S.) 53, 295–298 (1946).

Consider the usual one-dimensional damped wave equation (E) with damping term $(\rho(x)-\rho(y))u$. The solution of the Cauchy problem $u=f(x)$, $u_y=0$ on $x=0$ is

$$f(x+y)-f(x-y)-2\int_0^{\infty} f(t)w(t,x,y)dt=2Tf.$$

[The author refers to another paper, unavailable to the reviewer, for the definition and facts connected with w, but it is evidently the Riemann function associated with (E) for (ex. $t_0=0$) [illegible] the integral is actually over a finite range.] The main idea of the paper may be summed up by the remark that a ring multiplication is defined on an L_1 type of space generalizing the usual convolution definition, and involving the w kernel derived from (E). Thus let B be the Banach space of even functions in $L_1(-\infty,\infty)$ with $1+|x|$ as weight function. For each g in a certain subspace S of B an operator, roughly of the form $P_g(f)=\int_0^x(Tf)g\,dt$, is defined. The closure of finite sums of products of the P_g's determines a commutative ring which, with addition of a unity element and suitable norming, is a normed ring R in the Gelfand sense. Let Q refer to the functions in B vanishing outside a fixed interval. Then $Q\subset S$ and closure of Q in terms of the new norm $\|g\|=\|P_g\|$ leads to a ring R_1 isomorphic with R, where multiplication of f, g in R_1 is given by $P_f(g)$. Some applications are mentioned.

D. G. Bourgin (Urbana, Ill.).

Source: Mathematical Reviews, Vol [illegible] No. [illegible]

POVSTYANOY, N.Ye.

AR'YEV, T.Ya., prof.; POVSTYANOY, N.Ye.

Primary surgical treatment of butns; determination of the concept; indications, technic, and results [with summary in English]. Khirurgiia 33 no.9:14-22 S '57. (MIRA 11:4)

1. Iz khirurgicheskoy kliniki (zav. - prof. T.Ya.Ar'yev) 1-y Sovetskoy kliniki imeni V.I.Lenina Saratova
(BURNS, surg.)

POVZHITKOV, B.A., prof.

Vitamin C content of the blood of female animals (rabbits and dogs and also in the tissue of the ovary and uterus of rabbits under the influence of ionizing radiations. Akush.i gin. no.6: 9-12 '60. (MIRA 14:1)

1. Iz akushersko-ginekologicheskoy kliniki No.2 (zav. - prof. V.G. Butomo) kafedry akusherstva i ginekologii (zav. - chlen-korrespondent AMN SSSR prof. K.M. Figurnov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(ASCORBIC ACID) (OVARIES) (UTERUS)
(RADIATION--PHYSIOLOGICAL EFFECT)

POVZNER A.

Povzner, A. On some general inversion formulas of Plancherel type. Doklady Akad. Nauk SSSR (N.S.) 57, 123–125 (1947). (Russian)

Suppose that to each f in a dense linear subset H_0 of a Hilbert space H there corresponds a bounded linear operator A_f on H such that (1) $A_{\alpha f+\beta g}=\alpha A_f+\beta A_g$, (2) $A_f A_g=A_g A_f$, (3) if $f, g\in H_0$, then $A_{fg}=A_f A_g H_0$, (4) there exists an $e\in H_0$ such that $A_e=E$ (the identity) and (5) there exists a linear subset $T_0\subset H_0$ such that, for $t\in T_0$, A_t is Hermitian and each $h\in H$ may be written in the form $h=t_1+it_2$, $t_1, t_2\in T_0$. If a norm is defined in H_0 by $\|h\|_1=\|A_h\|$, then the completion of H_0 by this norm is a subset $\bar{R}$ of H which satisfies (1)–(5); with the multiplication $f\circ g=A_f g$, $\bar{R}$ is a normed ring. If T plays for $\bar{R}$ the role of T_0 for H_0, and if, for $r=t_1+it_2$ ($t_1, t_2\in T$), the adjoint r^* is defined to be t_1-it_2, then, according to a result of Gelfand and Neumark, $\bar{R}$ is isomorphic to the ring $C(\mathfrak{M})$ of all continuous functions on the set $\mathfrak{M}$ of all maximal ideals of $\bar{R}$ [Rec. Math. [Mat. Sbornik] N.S. 12(54), 197–213 (1943); these Rev. 5, 147]. Theorem: there exists a measure ω on the Borel sets of $\mathfrak{M}$ such that, for $f, g, h\in\bar{R}$, $(A_f g, h)=\int_{\mathfrak{M}} f(M)g(M)\overline{h(M)}d\omega(M)$; the mapping $f\to f(M)$ from $\bar{R}$ on $C(\mathfrak{M})$ may be extended to an isometric mapping from H on $L_2(\omega)$. This result is applied to prove Plancherel's theorem for a locally compact Abelian group G, by establishing a correspondence between the characters of G and the maximal ideals of a ring $\bar{R}$ generated by the above procedure. (If τ is the Haar measure of G, $H=L_2(\tau)$, and H_0 is the set of functions in $L_1(\tau)$ which vanish in a neighborhood of infinity, then the operators A_f, defined for $f\in H_0$ and $g\in H$ by $A_f g$ = convolution of f and g, satisfy (1), (2), (3) and (5). By a rather artificial modification it is possible to satisfy (4) also, i.e., to introduce an identity into the system.) *P. R. Halmos* (Princeton, N. J.).

Source: Mathematical Reviews, 1948, Vol 9, No. 4

POVZNER, A

Povzner, A. On the spectrum of bounded functions. Doklady Akad. Nauk SSSR (N.S.) 57, 755–758 (1947). (Russian)

Let L_1 denote the space of functions integrable in $(-\infty, \infty)$; S, the space of bounded continuous functions in $(-\infty, \infty)$; P, a class of even positive functions $p(x)$ with $p(x)$ continuous and nondecreasing for $x>0$, $p(\infty)=\infty$, and $p(x+\tau)\leqq M(\tau)p(x)$ for $x>0$, $\tau>0$; D_p, the space S with norm $\|\varphi\|=\sup|\varphi(x)/p(x)|$. A linear subspace T of S is called p-invariant if it is closed in D_p and $\varphi(x+\tau)\in T$ if $\varphi(x)\in T$. The author announces the following theorems, with indications of proofs.

(1) If T is a p-invariant proper subspace of S, and if f is an element of S not in T, there exists $h\in L_1$ such that $\int_{-\infty}^{\infty}h(t)f(-t)dt\neq 0$ and $\int_{-\infty}^{\infty}h(t)\varphi(-t)dt=0$ if $\varphi\in T$.

If $\varphi\in S$, $h\in L_1$, write $h\circ\varphi=\int_{-\infty}^{\infty}\varphi(x-t)h(t)dt$, and denote by $H(T)$ the set of elements of L_1 such that $h\circ\varphi=0$ for every $\varphi\in T\subset S$. If $\circ$ is considered as a multiplication in L_1, $H(T)$ is a closed ideal in the ring L_1. (2) If T is a p-invariant space, $\varphi\in S$ and $\varphi\circ h=0$ for every $h\in H(T)$, then $\varphi\in T$.

The closed linear manifold determined in the D_p metric by $\varphi(x+\tau)$ is called $T_{\varphi,p}$. The set of numbers λ for which $\int_{-\infty}^{\infty}e^{-i\lambda t}h(t)dt=0$ for all $h\in H(T_{\varphi,p})$ is called the p-spectrum of φ and denoted by $\mathfrak{N}_{\varphi,p}$. (3) If $\lambda\in\mathfrak{N}_{\varphi,p}$ then $e^{i\lambda x}\in T_{\varphi,p}$. (4) The p-spectrum of every $\varphi\in S$ is nonempty. The proof depends on Wiener's Tauberian theorem. (5) The intersection $\mathfrak{N}_\varphi$ of all $\mathfrak{N}_{\varphi,p}$, $p\in P$, is not empty. There is a $q\in P$ such that $\mathfrak{N}_\varphi=\mathfrak{N}_{\varphi,q}$. The set $\mathfrak{N}_\varphi$ is closed; it is called the *H-B* spectrum of φ. Hence if λ belongs to the *H-B* spectrum, $e^{i\lambda x}$ belongs to the span of $\{\varphi(t+\tau)\}$ in any D_p.

Let $\mathfrak{N}$ be a closed set of real numbers. The subset of L_1 of functions h with $\int_{-\infty}^{\infty}e^{-i\lambda t}h(t)dt=0$, $\lambda\in\mathfrak{N}$, is denoted by $H_{\mathfrak{N}}$. The set of λ for which $\int_{-\infty}^{\infty}e^{-i\lambda t}h(t)dt=0$ for all $h\in J\subset L_1$ is denoted by $\mathfrak{N}(J)$. The set of $h\in L_1$ for which $h\circ\varphi=0$ is denoted by H_φ. Then $\mathfrak{N}_\varphi=\mathfrak{N}(H_\varphi)$. *A*-problem: Can a given $\varphi\in S$ be approximated in D_p by a sequence of linear combinations of $e^{i\lambda t}$, $\lambda\in\mathfrak{N}_\varphi$? (6) For the *A*-problem to have an affirmative solution it is necessary and sufficient that $H_\varphi=H_{\mathfrak{N}_\varphi}$. *T*-problem: Does a given closed ideal $J\subset L_1$ coincide with $H_{\mathfrak{N}(J)}$? (7) The *T*-problem has an affirmative solution for every closed ideal J if and only if the *A*-problem has an affirmative solution for every $\varphi\in S$. From (6) and a theorem of Ditkin [Uchenye Zapiski Moskov. Gos. Univ. Matematika 30, 83–130 (1939); these Rev. 1, 336] follows (8): If the boundary of $\mathfrak{N}_\varphi$ is a reducible set, the *A*-problem has an affirmative solution for φ.

The Hahn-Bochner spectrum of φ is the set of points λ for which there is no neighborhood of λ in which the generalized Fourier transform of φ, of the second order, is linear. (9) The *H-B* spectrum of φ coincides with the Hahn-Bochner spectrum. The author reports that V. Marčenko has shown that, if $\varphi(x)$ is uniformly continuous, the spectrum in the sense of Beurling [Acta Math. 77, 127–136 (1945); these Rev. 7, 61] coincides with the *H-B* spectrum.

Source: Mathematical Reviews, 1948, Vol 9, No. 5

1/2

POVZNER, A.

(10) If $\lambda \in \mathfrak{N}_\varphi$ and Δ_λ is a neighborhood of λ, it is impossible to approximate to φ in any D_p by linear combinations of $e^{i\lambda_k x}$ with λ not belonging to Δ_λ. (11) If Δ is an open subset of $\mathfrak{N}_\varphi$ and the boundary of Δ is reducible, then φ can be approximated in any D_p by linear combinations of $e^{i\lambda_k x}$ with $\lambda \in \Delta$. (12) For φ to belong to $T_{\psi,p}$ it is necessary and sufficient that $H_\psi \subset H_\varphi$. *R. P. Boas, Jr.* (Providence, R. I.).

2/2

Source: Mathematical Reviews, 1948, Vol 9, No. 5

FA 53T45

POVZNER, A.

USSR/Mathematics - Transformations
Mathematics - Function Theory

Sep 1947

"The Range of Finite Functions and Laplace's Transformations," A. Povzner, 4 pp

"Dok Akad Nauk SSSR, Nova Ser" Vol LVII, No 9

Explains functions of $L_F(z) = \int_0^\infty \exp(izt) \cdot F(t)dt$.

States that results obtained are similar to those of T. Carleman. Submitted by Academician S. N. Bernshteyn, 20 Mar 1947.

53T45

Levitan, B. M. On differential equations of Sturm-Liouville type on a half-axis. Mat. Sbornik N.S. 23(65), 3–52 (1948). (Russian)

The author studies the operator $L(u)=d^2u/dx^2-\rho(x)u$ ($\rho(-x)=\rho(x)$) on the semiaxis. When (1) $\partial^2u/\partial x^2-\rho(x)u=\partial^2u/\partial y^2-\rho(y)u$, with boundary conditions $u(x,0)=f(x)$, $u_y(x,0)=0$, then u is an additive operator $T_x(f)$. If $\varphi(x,\lambda)$ satisfies $L(y)+\lambda(\varphi)=0$, $\varphi(0,\lambda)=1$, $\varphi'(0,\lambda)=0$, then (2) $T_x(\varphi(x,\lambda))=\varphi(x,\lambda)\varphi(y,\lambda)$, which is a generalization of a formula for $\cos\lambda x$ (obtained for $\rho=0$). A "product" is defined by (3) $f\circ g=\int_0^\infty T_x(f)g(y)dy$. When f is even, it is shown that (4) $T_x(f)=\frac{1}{2}[f(x+y)+f(x-y)]-\int_0^\infty f(t)w(t,x,y)dt$. If $\rho(x)=O(x^{-2-\epsilon})$, then $\omega=w_1'(0)w_1(t,x,y)+w_2(t,x,y)$ and w_1 is defined by $\int_{x-y}^{x+y}f(t)dt=\int_0^\infty w_1dt$; if $\int_0^\infty|w_2|dt\leqq K$ and $\rho(x)=O(x^{-2-\epsilon})$, $|w|$ is bounded. The above allows construction of a suitable normed ring and certain evaluations for the characteristic functions $\varphi(x,\lambda)$ for λ small. Operators P, Q are studied such that $P(\cos(\lambda\,!x))=\varphi(x,\lambda)$, $Q(\varphi(x,\lambda))=\cos(\lambda\,!x)$. If $\rho(x)=O(x^{-2-\epsilon})$, then $|\varphi(x,\lambda)|<K$ (all $\lambda\geqq0$) if and only if $|\varphi(x,0)|<K$; if $\rho(x)=O(x^{-1-\epsilon})$, then $|\varphi(x,\lambda)|\leqq K_1(|x|+1)$ ($\lambda\geqq0$); if $\varphi(x,\lambda)=O(|x|)$, then λ is real. Suppose $\rho(x)=O(x^{-1-\epsilon})$; in order that the set of functions f with norm $\|f\|=\int_0^\infty|f|dt$ be a normed commutative ring, with multiplication according to (3), it is necessary and sufficient that $\varphi(x,0)$ be bounded; in the latter case, the set of all bounded $\varphi(x,\lambda)$ defines the maximal ideals of this ring. If $\rho(x)=O(x^{-2-\epsilon})$, then the set of functions f with norm $\|f\|=\int_0^\infty(1+t)|f(t)|dt$ is a normed commutative ring (multiplication as in (3)); the maximal ideals of this ring are defined by the $\varphi(x,\lambda)$ such that $|\varphi|=O(x)$. The results of this work enable a generalization of a theorem of Bochner about positive functions and of a theorem of Plancherel. The author intends to study theorems of Plancherel type in a later work.

W. J. Trjitzinsky.

Source: Mathematical Reviews, Vol 10 No. 5

POVZNER, A.

Povzner, A. On the completeness of the sequence of functions $e^{i\lambda_n x}$ in $L^2(-\pi, \pi)$. Doklady Akad. Nauk SSSR (N.S.) 64, 163–166 (1949). (Russian)

Let $\{\lambda_n\}$ $(-\infty < n < \infty)$ be a sequence of complex numbers, $\alpha_p = \Re(\lambda_p - p)$, $\beta_p = \Re(\lambda_{-p} + p)$ $(p > 0)$. Then $\{e^{i\lambda_n x}\}$ is complete in $L^2(-\pi, \pi)$, if (1) $|\lambda_n - n| < A$ $(-\infty < n < \infty)$, (2) $\limsup \alpha_n < \frac{1}{2}$, $\limsup \beta_n < \frac{1}{2}$ and

$$L = \limsup n^{-1} \sum_{p=1}^{n} (\alpha_p - \beta_p) < \tfrac{1}{2}.$$

This is an improvement of results of Levinson [Gap and Density Theorems, Amer. Math. Soc. Colloquium Publ., v. 26, New York, 1940, p. 6; these Rev. 2, 180]. The proof is based on choosing constants p_k such that

$$e^{i\alpha_t} - \sum_{k=-n}^{n} p_{k,n} e^{i\alpha_k t} = \sum_{|k|>n} q_{k,n}(\lambda) e^{i\alpha_k t}, \qquad |t| < \pi,$$

and then proving by elementary calculation that under the hypothesis of the theorem

$$|q_{k,n}(\lambda)| = O(n^L(|k|+n)/|k|(|k|-n)),$$

so that $\|e^{i\alpha_t} - \sum_{k=-n}^{n} p_{k,n} e^{i\alpha_k t}\| \to 0$ as $n \to \infty$. [For a related method see O. Szász, Math. Ann. 77, 482–496 (1916).]

W. H. J. Fuchs (Ithaca, N. Y.).

Source: Mathematical Reviews, vol. 10 no. 7

POVZNER, A.

PA 174T26

USSR/Mathematics - Approximation
Interpolation

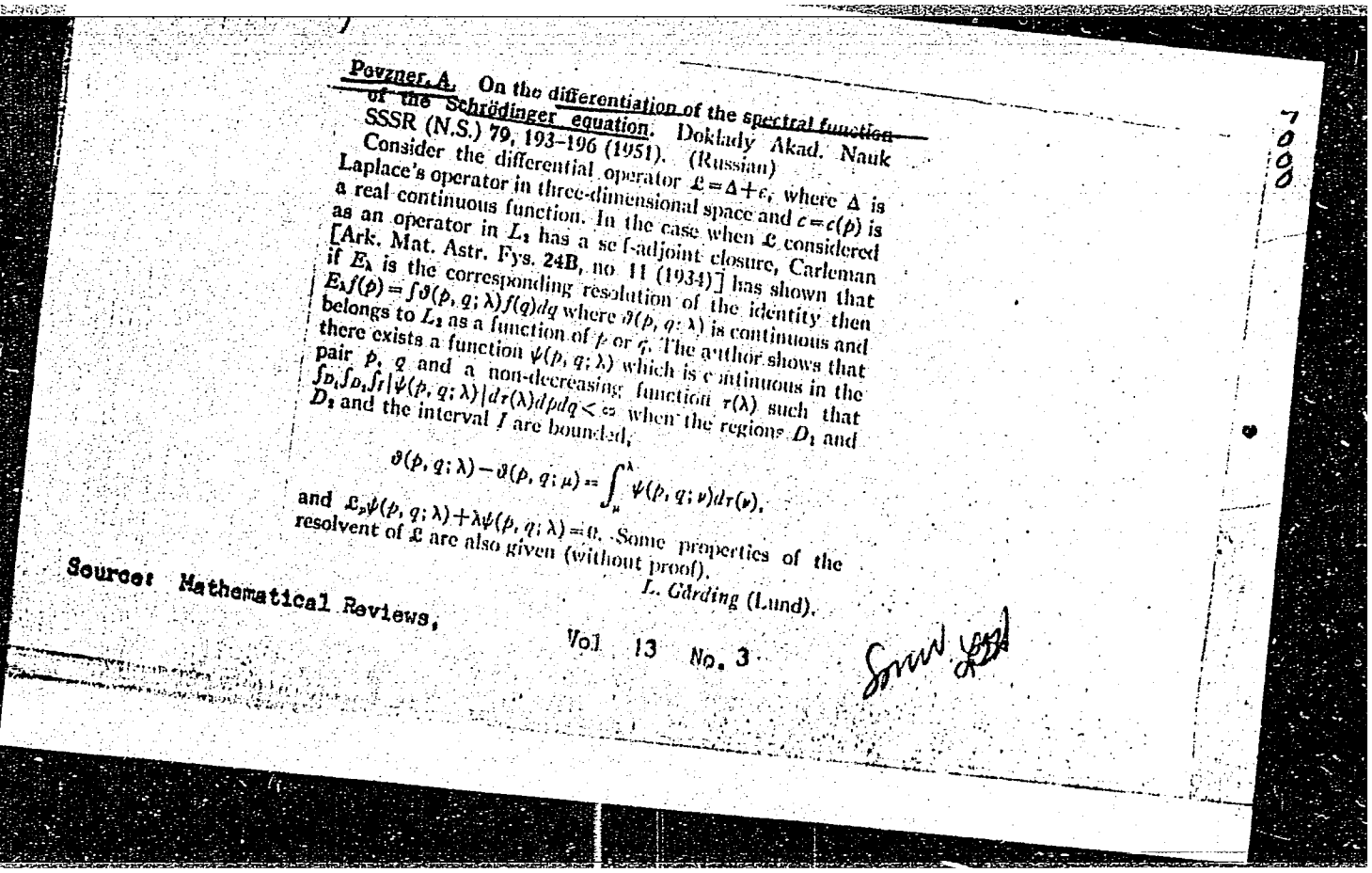
1 Sep 50

"Certain Additions to a Class of Hilbert Spaces of Functions," A. Povzner, Sci Res Inst Math and Mech, Khar'kov State U

"Dok Ak Nauk SSSR" Vol LXXIV, No 1, pp 13-16

Povzner supplements his article in "Dok Ak Nauk SSSR" Vol LXVIII, No 5, 1949, on conditions sufficient for following particular expansion:
$f(z) = a + b(z-1) + c(z-1)(z-2) + \ldots$
Submitted 4 Jul 50 by Acad A. N. Kolmogorov.

174T26



Povzner, A. On the differentiation of the spectral function of the Schrödinger equation. Doklady Akad. Nauk SSSR (N.S.) 79, 193–196 (1951). (Russian)

Consider the differential operator $\mathfrak{L}=\Delta+c$, where Δ is Laplace's operator in three-dimensional space and $c=c(p)$ is a real continuous function. In the case when $\mathfrak{L}$ considered as an operator in L_2 has a self-adjoint closure, Carleman [Ark. Mat. Astr. Fys. 24B, no. 11 (1934)] has shown that if E_λ is the corresponding resolution of the identity then $E_\lambda f(p)=\int \vartheta(p, q; \lambda) f(q)dq$ where $\vartheta(p, q; \lambda)$ is continuous and belongs to L_2 as a function of p or q. The author shows that there exists a function $\psi(p, q; \lambda)$ which is continuous in the pair p, q and a non-decreasing function $\tau(\lambda)$ such that $\int_{D_1}\int_{D_2}\int_I |\psi(p, q; \lambda)|d\tau(\lambda)dpdq < \infty$ when the regions D_1 and D_2 and the interval I are bounded,

$$\vartheta(p, q; \lambda)-\vartheta(p, q; \mu)=\int_\mu^\lambda \psi(p, q; \nu)d\tau(\nu),$$

and $\mathfrak{L}_p\psi(p, q; \lambda)+\lambda\psi(p, q; \lambda)=0$. Some properties of the resolvent of $\mathfrak{L}$ are also given (without proof).

L. Gårding (Lund).

Source: Mathematical Reviews,

Vol. 13 No. 3

POVZNER, A. YA.

1A 242T77

USSR/Mathematics - Cauchy's Problem Sep/Oct 52

"Cauchy's Problem," A. Ya. Povzner

"Usp Matemat Nauk" Vol 7, No 5(51), pp 229-233

Considers a vector x of a n-dimensional space with coordinates $x_1, x_2, .., x_n$ and the following eq: $-\Delta u + u_{tt} = f(x,t)$, where delta is the n-dimensional Laplace operator. Investigates the related eigenvalue problem. Submitted 15 Mar 52.

242T77

POVZNER, A. YA.

PA 241T78

USSR/Mathematics - Eigenfunctions Jan/Feb 53

"Expansion of Arbitrary Functions in Eigenfunctions of the Operator $-\Delta u + cu$," A. Ya. Povzner, Khar'kov

"Matemat Sbor" Vol 32 (74), No 1, pp 109-156

Investigates the operator $-\Delta u + c(x,y,z)\,u$ in unbounded three-dimensional space. The one-dimensional case, $c(x)$, was expounded fully in 1910 by H. Weyl. Discusses: resolvent of self-adjoint extension of subject operator, spectral functions of self-adjoint expansions, differentiation of spectral functions, influence of variation of boundary conditions on the spectrum, the case of absolutely integrable potential energy $c(q)$. Submitted 25 Mar 52.

241T78

POVZNER, A. YA.

21 Jun 53

USSR/Mathematics - Spectral Theory

"Special Properties of the Operator-$\Delta u + cu$ in an Unbounded Space of an Arbitrary Number of Dimensions," M. P. Zyuz'ko, Khar'kov State Univ

DAN SSSR, Vol 90, No 6, pp 957-959

Demonstrates three theorems which are generalizations, to the case of a Euclidean n-dimensional space, of the corresponding 3-dimensional theorems of A. Ya. Povzner (Matemat Sbornik, 32, No, 1 (1952)) on the spectral theory of the operator $Bu = -\Delta u + c(p)u$. Presented by Acad S. N. Bernshteyn 25 Apr 53.

269T67

AGRANOVICH, Z.S.; POVZNER, A.Ya.; LANDKOF, N.S., otvetstvennyy redaktor; GONCHARENKO, A.P., tekhnicheskiy redaktor

[The application of operational methods to the solution of some problems in mathematical physics] Primenenie operatsionnykh metodov k resheniiu nekotorykh zadach matematicheskoi fiziki. Khar'kov, Izd-vo Khar'kovskogo gos. unv. imeni A.M.Gor'kogo, 1954. 53 p. (MLRA 9:10)

(Calculus, Operational) (Mathematical physics)

POVZNER, A.Ye.

Expansions in functions representing solutions of a diffusion problem. Dokl. AN SSSR 104 no.3:360-363 S '55. (MLRA 9:2)

1. Predstavlena akademikom S.L.Sobolevym.

(Mathematical physics)

POVZNER, A.Ya.

SO: MATHEMATICAL REVIEW (unclassified)
vol XIV, No 4, April 1953, pp 341-438

Povzner, A. Ya. On M. G. Krein's method of directing functionals. Učenye Zapiski Har'kov. Gos. Univ. **28**, Zapiski Naučno-Issled. Inst. Mat. Mch. i Har'kov. Mat. Obšč. (4) **20**, 43–52 (1950). (Russian)

If A is a linear operator with dense domain in a Hilbert space H, a system of additive functionals $\Phi_j(f, \lambda)$ $(j=1, 2, \cdots, p)$ is called a directing system of functionals for A if they are defined for all real λ and f in a dense linear manifold L of H, and if, for each $f \in L$ and λ, $|\Phi_j(f, \lambda)-\Phi_j(f, \mu)| \leqq M_\lambda(f)|\lambda-\mu|$, if $Af-\lambda_0 f=f_0$ has a solution for $f_0 \in L$ if and only if $\Phi_j(f_0, \lambda_0)=0$ $(j=1, 2, \cdots, p)$; and if for any interval $(-a, a)$ there are p elements $l_1, l_2, \cdots, l_p$ in L such that $\det \Phi_j(l_k, \lambda)=0$ for $-a \leqq \lambda \leqq a$. Let A be assumed self-adjoint. H is then isomorphic to a space $\bar{H}$ of functions on a space $\mathfrak{M}$ of points $M=(k, \lambda)$ where λ is in the spectrum of H with multiplicity m, $k=1, 2, \cdots, m$; each $f \in H$ corresponds to $f(M)$ in $\bar{H}$ with

$$\|f\|^2 = \|f(M)\|^2 = \int_{\mathfrak{M}} f(M)\, d\omega(M)$$

where ω is a Borel measure, and the subspaces of H corresponding to constant k reduce A so that in them

$$Af(M) = \varphi(M) f(M) = \lambda f(M).$$

It is shown, generalising a formula of M. G. Krein [C. R. (Doklady) Acad. Sci. URSS (N.S.) **53**, 3–6 (1946); these Rev. 8, 277], that there exist functions $\tau_1(M), \cdots, \tau_p(M)$ such that for each $g \in L$, $g(M)=\sum_j \tau_j(M) \Phi_j(g, \varphi(M))$.

For H taken as $L^2(-\infty, \infty)$ and

$$\Phi_j(f, \lambda) = \int_{-\infty}^{\infty} f(x) \varphi_j(x, \lambda)\, dx$$

the inversion formulae

$$f(M) = \lim_{n \to \infty} \sum \tau_j(M) \int_{-n}^{n} \varphi_j(x, \varphi(M)) f(x)\, dx,$$

$$f(x) = \int_{\mathfrak{m}} g(M) \sum_{j=1}^{p} \bar{\tau}_j(M) \bar{\varphi}_j(x, \varphi(M))\, d\omega(M)$$

are proved. If A has a system of p directing functionals, its spectral multiplicity does not exceed p. *J. L. B. Cooper.*

SO: MATHEMATICAL REVIEW (unclassified)

GABOVICH, Ye.Ya.; POVZNER, A.Ya.; SMIRNOV, V.I.; KALININA, L.P.

Reviews and bibliography. Usp. mat. nauk 20 no.3:259-270 My-Je '65. (MIRA 18:6)

POVZNER, A.Ya. (Moskva)

Boltzmann's equation of the kinetic theory of gases.
Mat. sbor. 58 no.1:65-86 S '62. (MIRA 15:9)
(Gases, Kinetic theory of)