Petrikova, M. N.

USSR/Chemistry--Micro-analysis

Card 1/1   Pub. 86--18/39

Authors   :   Alimarin, I. P., Mem. Corresp. Acad. Sc. USSR; and Petrikova, M. N.

Title   :   Ultramicroanalysis

Periodical :   Priroda 44/1, 89--94, Jan 1955

Abstract   :   Ultramicroanalysis is presented as a branch of chemistry dealing with
the analysis of very minute quantities, and as having been developed by
Russian scientists. In such analysis quantities ranging from 0.001
milliliter to 0.1 microliter and weighing 20--600 micrograms are analyzed.
The instruments required are illustrated and explained. The procedure
is described, covering such steps as weighing and staining the specimens
and the use of capillary attraction. Five Soviet references (1949--1954).
Illustrations; table.

Institution :   The V. I. Vernatskiy Institute of Geochemistry and Anal. Chem. of the
Acad. of Sc., USSR

Submitted   :   .....

PETRIKOVA, M.N.

ALIMARIN, I.P.; PETRIKOVA, M.N.

Use of silicon-organic coatings in ultramicroanalysis. Zhur.anal khim. 10 no.4:251-255 Jl-Ag '55. (MLRA 8:9)

1. Institut geokhimii i analiticheskoy khimii imeni V.I.Venad-skogo AN SSSR, Moscow.
   (Microanalysis) (Silicon organic compounds)

PETRIKOVA, M.N.

PETRIKOVA, M.N.; ALIMARIN, I.P.

Ultramicro-method of chemical analysis. Amperometric titration [with summary in English]. Zhur.anal.khim. 12 no.4:462-465 Jl-Ag '57.

(MIRA 10:10)

1.Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR, Moskva.

(Microchemistry)

(Electrochemical analysis)

PETRIKOVA, M.N.

AUTHORS: Alimarin, I.P., Petrikova, M.N.   32-1-11/55

TITLE: Ultramicroanalysis. Survey of Works From 1952 to 1957
              (Ultramikroanaliz. Obzor rabot 1952-1957 gg.).

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 1, pp. 29-32 (USSR)

ABSTRACT: It is said in this report that the methods of microanalysis have
              not been dealt with until quite recently, and that therefore very
              few scientific works dealing with this field have existed up to
              now. The report mentions 40 foreign works dealing with this sub-
              ject, while only 4 Soviet works by the authors of this paper, 1 by
              P. Kirk, one by I.M. Korenman and one by I.M. Korenman and
              Ye.V. Gronsberg are mentioned. On the whole, foreign works on this
              subject are given preference, above all those by Benedetti and
              Pichler, which (as may be seen from the list of references) are
              used as a standard work in a Russian translation also in the USSR.
              The works mentioned are divided into two groups: 1.) Works mainly
              consisting in various kinds of chemical analysis for which, per-
              haps, the most simple devices are used, and, 2.) works in which
Card 1/2   microscopes, manipulators, and other precise apparatus are used.

Ultramicroanalysis. Survey of Works From 1952 to 1957   32-1-11/55

The Soviet works by Kirk, Korenman and Grosberg belong to the first group, whereas the four works by the authors of this paper belong to the second and deal with electrochemical methods of analysis, ultramicroelectrolysis with the application of platinum- or mercury electrodes, and further such methods as the potentio- metric, amperometric and ultramicrotitration, as well as the quantitative determination for iron, vanadium and chromium with an accuracy of 1 - 3%. In conclusion, Soviet scientists are re- quested to pay more attention to this branch of science, above all in the fields of electron microscopy and the application of radioactive isotopes. There are 47 references, 7 of which are Slavic.

AVAILABLE: Library of Congress

Card 2/2   1. Microanalysis-Methods   2. Chemical analysis
              3. Mercury electrodes

SOV/63-4-2-13/39

5(4)

AUTHORS: Alimarin, I.P., Corresponding Member of the AS USSR, and Petrikova, M.N.

TITLE: Achievements of Ultramicroanalysis

ABSTRACT: The ultramicromethod analyzes quantities of $n \cdot 10^{-6}$ to 10^{-12} g in
             $n \cdot 10^{-3}$ to 10^{-6} ml. Volumes of less than 10^{-3} ml are handled by
             micromanipulators under the microscope Techniques for larger quanti-
             ties have been developed by Korenman and others $\underline{/}$Ref 4, 5$\underline{/}$. Conical
             capillary test tubes of 0.3 - 2 mm in the lower part and 3 - 6 mm in
             the upper part are used for this purpose. In titration the end point
             is determined by electrochemical methods. In ultramicropotentiometric
             titration $\underline{/}$Ref 11$\underline{/}$ of 1 mm^3 of a solution the cell is placed in a
             humidity chamber (Figure 3) to avoid evaporation. The coulombometric
             method of analysis is investigated in $\underline{/}$Ref 12, 13$\underline{/}$. In the spectro-
             photometer PMQ-II adsorption can be measured in volumes of 100 mm^3. A
             photographic microcolorimeter may be used in the colorimetric analysis
             of small volumes $\underline{/}$Ref 25$\underline{/}$. In the ultramicroanalysis under the micro-
             scope introduced by Benedetti-Pichler $\underline{/}$Ref 29-30$\underline{/}$ the vessels are

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Achievements of Ultramicroanalysis

0.5 - 1.5 mm in diameter. They are placed in a special chamber with wet cotton wool to reduce evaporation (Figure 6). The separation of solution and precipitate is obtained by centrifugation, not filtration. Electrolytic separation of metals may be carried out under the microscope with solid or liquid electrodes $\underline{/}$ Ref 38 $\underline{/}$. Extraction from volumes of less than 10^{-3} ml is possible in a soldered capillary tube. The burettes used in this method are 0.5 mm in diameter with an end drawn to 0.02 mm in diameter. For potentiometric analysis a capillary vessel of 1 - 2 mm with a platinum wire as electrode is employed. In amperometric titration the mixing is carried out by a vibrating electrode (Figure 10). The quantitative analysis is carried out by means of vessels with hydrophobic walls $\underline{/}$ Ref 41 $\underline{/}$. For weighing ultramicroscales are used with a quartz torsion thread of 25 μ. The weights are placed on cups of platinum foil. Such scales weigh substances of a few tenths of mg with an error of $2 \cdot 10^{-9}$ g. The ultramicromethod is used in biochemistry and clinical laboratories for the determination of calcium or gas in the blood. A pipette for this method is shown in Figure 12. It is also applied in the synthesis of minerals under high

Card 2/3

Achievements of Ultramicroanalysis   SOV/63-4-2-13/39

pressure, nuclear reactions, etc. It is recommended to use also the electronic microscope.
There are 8 diagrams, 4 photos, 1 table and 47 references, 12 of which are Soviet, 17 German, 15 English, 1 French, 1 Czechoslovak, 1 Canadian.

Card 3/3

PETRIKOVA, M.N.; ALIMARIN, I.P.

Ultramicromethod of chemical analysis. Report 7: Alkalimetric
titration using a gold electrode. Zhur. anal. khim. 20 no.5:
529-533 '65.   (MIRA 18:12)

1. Institut geokhimii i analiticheskoy khimii imeni V.I.
Vernadskogo AN SSSR, Moskva. Submitted April 7, 1964.

ALIMARIN, I.P.; PETRIKOVA, M.N.

Ultramicrogram method of chemical analysis. Report No. 2:
Coulometric titration. Zhur. anal. khim. 21 no. 1:3-6 '66
(MIRA 19:1)

1. Institut geokhimii i analiticheskoy khimii imeni Vernadskogo
AN SSSR, Moskva.

ALIMARIN, I. P.; PETRIKOVA, M. N.

New methods for organic ultramicroanalysis performed on a microscope stage. Kem tud kozl MTA 16 no.3:237-245 '61.

1. Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskoge, Moskva.

BEKLEMISHEV, K.V.; PETRIKOVA, M.N.; SEMINA, G.I.

Cause of the buoyancy of plankton diatoms. Trudy Inst.okean.
51:33-36 '61.   (MIRA 14:6)
                        (Diatoms)   (Sap)

RAPOS, Milan, PETRIKOVA, Natalia

Contribution to the topical distribution of histiocytes in the interstitial connective tissue of rat testes. Biologia (Bratisl.) 19 no.5:382-385 '64.

1. Katedra histologie a embryologie Lekarskej fakulty Univerzity Komenskeho v Bratislave.

P

Country	: USSR
Category	: Microbiology. General Microbiology. Growth and Development of the Microbial Population
Abs. Jour	: Ref Zhur-Biol., No 23, 1958, No 103407
Author	: Petrikova V. M., Iozinskaya T. M. Sera
Institut.	: Stavropol' Scientific Research Institute of Vaccines and
Title	: The Problem of Finding a Method of Producing Regeneration of Filtrable Forms of the Diphtheria Organism
Orig Pub.	: Sb. nauchn. tr. Stavropol'sk n.-i. in-t vaktsin i syvorotok, 1957, No 4, 209-214
Abstract	: An attempt was made to produce regeneration of filtrable forms of the diphtheria bacillus by means of sewing collodion sacs containing a bouillon culture filtrate prepared according to the Calmette method into the abdominal cavity of a young rabbit weighing 170-180 grams. Positive results--the growth of the secondary culture on solid media--were obtained in three out of 11 experiments, which considerably exceeds the number of positive results obtained through the use of the Suknev regeneration method or frequent passages through fresh nutritive media (1:9). When collodion sacs containing a filtrate of a bouillon culture were sewn into the abdominal cavities of guinea pigs, they died
Card:	1/2

Country	:	USSR
Category	:	Microbiology. General Microbiology. Growth and Development of the Microbial Population.
Abs. Jour	:	Ref Zhur-Biol., No 23, 1958, No 105/06
Author	:	Petrikova V. M. and Cera
Institut.	:	Stavropol Scientific Research Institute of Vaccines/
Title	:	Filtrable Forms of Diphtheria Bacteria
Orig, Pub.	:	Sb. nauchn. tr. Stavropol'sk. n.-i. In-t vaktsin i syvorotok, 1957, No 4, 215-220
Abstract	:	By the method of acting in the presence of specific antiserum filtrable forms of the diphtheria bacillus were obtained. It is possible to produce regeneration in the secondary cultures usually by means of the Suknev "culture medium" and particularly by sewing collodion sacs into the abdominal cavity of young rabbits. The secondary cultures are characterized by an altered morphology, decreased fermentative activity, poor agglutinability and atoxigenicity. The newly acquired properties are stable.-
Card:		1/1

BRUMOVSKY, Ivan, inz.; PETRIKOVIC, Vladimir, inz.

Mud fluid lesees and their elimination. Geol pruzkum 6 no.8:
231-233 Ag '64

1. Ceskoslovenske naftove doly National Enterprise, Hodonin;
Research Institute of the Ceskoslovenske naftove doly, Brno.

PETRIKOVICS, Laszlo

Correct selection of layer resistors. Radiotechnika 11 no.1:30 Ja '61.

PETRIKOVITS, Laszlo ·

Correct selection of layer resistors. Radiotechnika 10 no.11:
4 of cover N '60.

PORFIR'YEV, V.B. [Porfir'iev, V.B.]; GRINBERG, I.V.; PETRIKOVSKAYA, M.E.
  [Petrykivs'ka, M.IE.]; VARCHEVSKIY, I.S. [Varchevs'kyi, I.S.]

  Studying the origin of petroleum. Pratsi Inst. geol. kor. kop.
  AN URSR 2:59-68 '60.   (MIRA 14:)
                        (Petroleum geology)

PETRIKOVSKHYM, M Ye

GRINBERG, I.V.; PETRIKOVSKAYA, M.Ye. [Petrikivs'ka, M.IE.]

Studying genetic variations in the hydrogen isotope composition (H/D) of minerals of organic and inorganic origin. Geol. zhur. 17 no.4:64-69 '57.   (MIRA 11:4)
                    (Hydrogen--Isotopes)
                    (Mineralogy, Determinative)

GRINBERG, I. V.; PETRIKOVSKAYA, M. Ye.

"A study of the content and ratios of hydrogen (H/D) and carbon (C^{12}/C^{13}) isotopes in hydrocarbons of oil and coal series."

report submitted for 22nd Sess, Intl Geological Cong, New Delhi, 14-22 Dec 1964.

GRINBERG, I.V.; PETRIKOVSKAYA, M.Ye.; AREF'YEV, N.V.

      Study of the chemical, genetic and isotopic relationship of
gas-condensate hydrocarbons in the Carpathian region. Geol.
sbor. [Lvov] no.7/8:54-65 '61.   (MIRA 14:12)

1. Institut geologii poleznykh iskopayemykh AN USSR, L'vov.
        (Carpathian Mountain region—Hydrocarbons)

ZIMIN, P.A., kandidat tekhnicheskikh nauk; PETRIKOVSKIY, S.Kh., inzhener.

Pallet transport of bricks by the railroads and mixed transport
lines. Mekh.trud.rab.10 no.4:17-20 Ap '56.   (MLRA 9:7)
                    (Bricks--Transportation)

PETRIIA, P.

7774.   PETRIIA, P.---Yagolnyye Kul'Tury. Vii'Nyus, Gospolitna Uchizdat, .954.
468 S. S 1?1 2? sn. 4.0?0 Ekz. 7R. ?5 K. Vper.--Bibliogr: S. 463-465
(56 Nazv.)--Na litov. Yaz--(55-3247) 634.7 & (o16.3)

SO: Knizhnaya Letopis', Vol. 7, 1 55

29 Sep 65.

1/1
                                    - 174 -

Faculty, P.J.Safarik University (Fysiologicky Ustav Lek. Fak.
UPJS), Kosice.

"Influence of Cortisone on the pH and pCO_2 in Arterial and
Venous Blood of Peripheral Tissue."

Prague, Ceskoslovenska Fysiologie, Vol 15, No 2, Feb 66, p 78

Abstract: Experiments with 18 dogs in allobarbital narcosis
showed an increased pH in the arteries and a decreased pH in the
veins, lasting about 3 hours after administration of cortisone.
Arterial pCO_2 decreased and venous increased for about 2 hours.
Oxygen content of the blood was increased by cortisone admin-
istration. 1 Western, 1 Czech reference. Submitted at "16 Days
of Physiology" at Kosice, 27 Sep 65.

1/1
                                    - 126 -

CZECHOSLOVAKIA

STANCAKOVA, L., PETRILAK, J; Physiological Institute, Medical
Faculty, P.J.Safarik University (Fyziologicky U. tav Lek. Fak.
UPJS) Kosice.

"Problem of Cortisone "Utilization" in Peripheral Tissue."

Abstract: The influence of cortisone administration on the
level of corticoids was investigated in 16 dogs of both sexes.
Immediately after the administration, levels in arterial blood
were substantially increased, in venous blood slightly. After
60 minutes there was no longer any difference in arterial blood,
and after 180 minutes the level was lower. In venous blood
levels were higher after 60, 120 and 180 minutes. It appears
that cortisone passes into the venous system. 2 Western,
2 Czech references. Submitted at "16 Days of Physiology" at
Kosice, 29 Sep 65.

1/1

L 55241-65   EWT(m)/EPF(c)/EPR/EWP(j)/T   Pc-4/Pr-4/Ps-4   WW/RM

ACCESSION NR: AP5015566   UR/0286/65/000/008/0147/0147

AUTHOR: Valgin, V. D.; Demin, V. N.; Petrilenkova, Ye. B.

TITLE: Preparation of fire-resistant polymeric materials. Class 39, No. 145749

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 147

TOPIC TAGS: fire resistant polymeric material, polyester resin, chlorine containing polyester resin

ABSTRACT: An Author Certificate has been issued for a preparative method for fire-resistant polymeric materials based on chlorine-containing polyester resins. To improve the quality and processability of the polymeric material, the following materials and procedure are used: chlorine-containing maleic polyester and a polymerization accelerator are dissolved in the nonvolatile product of the partial condensation of methacrylic acid and glycols. Following the addition of 2—5% antimony trioxide, the system is cured with peroxide compounds.   [BC]

ASSOCIATION: none

Card 1/2

L 55241-65
ACCESSION NR: AP5015566

SUBMITTED: 30May61   ENCL: 00   SUB CODE: MT

NO REF SOV: 000   OTHER: 000   ATD PRESS: 4023

Card 2/2

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87922   S/191/60/000/004/003/015
B016/B058

IS 8340   2209

AUTHORS: Li, P. Z., Mikhaylova, Z. V., Sedov, L. N.,
Petrilenkova, Ye. B., Libina, S. L.

TITLE: Laminated Glass-reinforced Plastics. Report VIII. A Polyester
Binding Agent for Glass-reinforced Plastics

PERIODICAL: Plasticheskiye massy, 1960, No. 4, pp. 9-12

TEXT: The authors describe polypentaerythrite dichlorohydrin maleinate
phthalate (PDP), which was synthetized for the first time. It was the
purpose of the study to widen the raw-material basis of polyvalent alcohols
for the synthesis of unsaturated polyester resins by using polypenta-
erythrite. In contrast with the inadequate methods known, the authors
proved that unsaturated polyesters with higher fire resistance can be
synthetized by using a chlorine-containing alcohol component. For the poly-
condensation they used pentaerythrite dichlorohydrin (PED), which is formed
by saponification of the reaction product of pentaerythrite and thionyl
chloride in the presence of pyridine. PDP was synthetized from PED by ad-
ding maleic acid and phthalic anhydride (molar ratio 1.0 : 0.5 : 0.5) in

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87922

Laminated Glass-reinforced Plastics.   S/191/60/000/004/00 $ /0 $ $
Report VIII. A Polyester Binding Agent for   B016/B058
Glass-reinforced Plastics

the inert gas at 170-190°C (see scheme). The resin yield was 89 to 92 %
of the total content of all components. After solidification, PDP mixed
with 1/5 styrene gives a product that is difficultly combustible and stops
burning after removal of the flame. The product from 70 parts by weight of
PDP and 30 units of styrene is still less combustible. PDP may be mixed
with methyl methacrylate at any proportion, and its solution in styrene
(45 : 55) does not tend toward stratification. Its solutions are gelatiniz-
ed at room temperature within three hours in the presence of 6% isopropyl
benzene hydrogen peroxide and 8% of the accelerator HK(NK). This also
occurs within 15 minutes in the presence of 3% methyl-ethyl ketone per
oxide and 3% NK. From PDP and glass fabric T_1 (T_4), the authors produced

samples of self-extinguishing glass textolite, which are superior to the
product from styrene resin ПН-1 (PN-1) with respect to their most important
mechanical and insulation properties. The authors prepared a test sample
of higher transparency from PDP and glued glass mat. Papers by G. S.
Petrov, K. A. Andrianov, and S. I. Dzhenchel'skaya (Ref. 2), as well as
G. S. Petrov and K. N. Vlasova (Ref. 3) are mentioned. There are 5 fig-
ures, 2 tables, and 7 references: 5 Soviet, 1 French, and 1 German.

Card 2/2

LI, P.Z.; MIKHAYLOVA, Z.V.; SEDOV, L.N.; PETRILENKOVA, Ye.B.;
        LIBINA, S.L.

        Laminates based on glass fiber. Report No.8: Polyester
        binder for glass reinforced plastics. Plast.massy no.4:
        9-12 '60.   (MIRA 13:7)
               (Glass reinforced plastics)
               (Binding materials)

VALGIN, V.D.; DEMIN, V.N.; PETRILENKOVA, Ye.B.

Properties of fire-resistant unsaturated polyester resins. Plast.massy
no.4:14-16 '63.
    (Resins, Synthetic)   (MIRA 16:4)
                                (Refractory materials)

PETRILENKOVA, Ye. B.

AID Nr. 975-7   23 May

FIRE-RESISTANT UNSATURATED POLYESTER RESINS (USSR)

Valgin, V. D., V. N. Demin, and Ye. B. Petrilenkova. Plasticheskiye
massy, no. 4, 1963, 14-16.   S/191/63/000/004/004/015

Fire-re stant, unsaturated polyester resin ПHH has been synthesized by re-
acting chlorendic anhydride, maleic anhydride, ethylene glycol, and diethylene
glycol at 160 to 175°C in a flask provided with a bubbler for CO_2. After the
neutralization number of the polyester attained 25 to 28 mg KOH per g resin
the reaction mixture was cooled to 140 to 150°C and hydroquinone was added.
ПHH is a brown, transparent solid (density, 1.57 to 1.59 g/cm^3; chlorine con-
tent, 36 to 37.4%) soluble in acetone, benzene, styrene,and methyl methacry-
late. Study of the properties of cured polyester-styrene solutions showed that
a styrene-containing ПHH with the best properties is obtained under the follow-
ing conditions: neutralization number of the polyester, 25 to 28 mg KOH per g
of resin; styrene content, 25 to 30%; initiator (cumene hydroperoxide), 3 to 5
parts; and accelerator (cobalt naphthenate), 0.45 to 0.55 parts per 100 parts
of polyester-styrene solution. The styrene-containing ПHH is fire-resistant

Card 1/2

AID Nr. 975-7   23 May

FIRE-RESISTANT [Cont'd]   S/191/63/000/004/004/015

and has the following properties: density, 1.35 to 1.41 g/cm^3, Vicat softening point, 110 to 126°C; compressive strength, 1300 to 1370 kg/cm^2; bending strength, 350 to 400 kg/cm^2; impact toughness, 2.7 to 3.6 kg·cm/cm^2; and 12-hr acetone-extracted fraction, 14 to 16%. Preliminary tests indicated that styrene solutions of ПНН can be used as adhesives to bond foamed plastics to metals and as binders for fire-resistant glass-reinforced plastics.   [BAO]

                                                                Card 2/2

PETRILL A. and RUDNAI O. Az 1946-47. evi febris recurrens jarvany The febris re-
currens epidemic in the year 1946-47 Nepegeszsegugy, Budapest 1949, 30/185-215)
Tables 2

This epidemic, coming over a Hungary from Rumaina, actually started in 1945 and
lasted until the middle of 1947. The greater number of the cases occurred indthe
Eastern counties and the disease affected in more than 50% of cases in persons bet-
ween 10 and 29 years of age. The average mortality amounted to 3.7%. 80-85% of the
cases occurred in the gipsy settlements.

Went - Debrecen

SO: Medical Microbiology & Hygiene Section IV, Vol. 3, No. 7-12

PETRILLA, A.

Epidemiological characteristics of the 1953 influenza epidemic
in Hungary. Acta mecrob. hung. 2 no.1-2:131-143 1954.

1. State Institute for Public Health, Budapest.
       (INFLUENZA, epidemiol.
            Hungary.)

PETRILLA, Aladar, dr.

Some epidemiologic problems of infectious enterocolitis. Orv.
hetil. 105 no.38:1783-1786   20 S'64

1. Pestmegyei Kozefeszsegugyi-Jarvanyugyi Allomas.

PETRILLA, Aladar, dr.

Results of active immunization against tetanus. Orv.hetil. 101
no.32:1121-1123 7 Ag '60.

1. Orszagos Kozegeszsegugyi Intezet, Jarvanyugyi osztdlya
        (TETANUS immunol)
        (VACCINATION)

PETRILLA,A.

Results of active immunization of civilian population against
tetanus. Acta microb. hung. 7 no.1:65-70 '60

1. State Institute of Hygiene, Budapest.
 (TETANUS immunol.)
 (VACCINATION statist.)

PETRILLA, A.

The results of intracutaneous poliomyelitis vaccination in Hungary, 1957. p. 297.

ACTA MICROBIOLOGICA. (Magyar Tudomanyos Akademia) Budapest, Hungary, Vol. 5, no. 3, 1958. In English.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 11, November 1959. Uncl.

PETRILLA, A.; SOLT, K.; VEDRES, I.

Some epidemiological characteristics of viral hepatitis in Hungary.
In English. p. 135.

ACTA MICROBIOLOGICA. (Magyar Tudomanyos Akademia) Budapest, Hungary.
Vol. 6, no. 2, 1959.

Monthly List of East European Accessions (EEAI) LC, Vol. 8, no. 2, 1959.

PETRILLA A. O. K. I. jarvanyugvi osztalyarol AZ 1946, ev jarvanyugyi merlege Epidemiological balance of the year 1946. Orvosok Lapja, Budapest 1947, 3/7 (217-218) Tables 1

Among the rarer diseases a remarkable increase of typhus and relapsing feverwas observed. Of the patients 80 per cent were gipsies, and the incidence decreased parallel with improvements in public health conditions, with the more extensive use of DDT powder and with the establishment of new delousing stations. Outbreaks of relapsing fever occurred in practically the same areas as typhus outbreaks, but it was impossible to discover the source of the epidemics because the outbreaks were complicated in many cases by other diseases, such as virus pneumonias. The rare infections include two reported cases of glanders, both fatal. A serious typhoid fever epidemic occurred during 1945, but in 1946 the morbidity rate returned to its normal level. The probable causes afegdiaduzagdbotWhSaineidehceeofparatyphbidfand dysentery did not exceed the general average. The diphtheria curve gradually increased from 1943, and this still continued in 1946. The number of scarlet fever cases increased though not significantly. The number of measles cases was low until September when a gradual increase was observed, and during December some epidemics occurred. Melly-Budapest

SO: Medical Microbiology and Hygiene, Section IV, Vol. I, #1-6

PETRILLA, A.; SOLT, K.; VEDRES, I.

Some epidemiological characteristics of viral hepatitis in
Hungary. Acta microb.hung. 6 no.2:135-145 '59.

1. State Institute of Hygiene, Budapest.
(HEPATITIS INFECTIOUS epidemiol)

PETRILLA, A.

The results of intracutaneous poliomyelitis vaccination in Hungary 1957.
Acta microb. hung. 5 no.3:297-309 1958.

1. State Institute of Hygiene, Budapest.
(POLIOMYELITIS, prev. & control
vacc. in Hungary, results with intracutaneous Salk vaccine
in 1957)

EXCERPTA MEDICA Sec 17 Vol 5/7 Public Health July 59

1960. THE RESULTS OF THE INOCULATION AGAINST POLIOMYELITIS IN 1957 - Az 1957. évi poliomyelitis ellenes védőoltások eredménye - Petrilla A. - ORV. HETIL. 1958. 99/35 (1193-1200) Graphs 8 Tables 6

The Salk vaccine was first used in Hungary during 1957. concurrently with a major epidemic of poliomyelitis. Altogether, nearly 1,200,000 subjects were given at least 2 injections of 0.1 ml. intradermally at monthly intervals. The exact effect of this procedure could not be evaluated, but it is estimated on indirect evidence that among those inoculated the incidence of the disease was at least 50-60% less than in the uninoculated.   Lorber - Sheffield (L, 17)

EXCERPTA MEDICA Sec 17 Vol 5/2   Public Health   Feb 59

475. THE SO-CALLED ASIATIC INFLUENZA OF 1957 - Az 1957. évi ó.n. 'ázsiaf'
      influenza járvány - Petrilla A. - ORV. HETIL. 1958, 99/30 (1016-1021)
      Graphs 3 Tables 1
The first cases in Hungary were reported in August. The virus could be promptly
identified. The height of the epidemic occurred in the middle of October. It bore a

4 7 5

benign character; mortality was low, practically the same as that of the 1954 epi-
demic. Complications were seen more frequently than usual in the younger age
groups.   (XVII, 50)

EXCERPTA MEDICA Sec 17 Vol 5/6 Public Health   June 59

1523. VACCINATION AGAINST PERTUSSIS. AN APPRAISAL OF ITS EFFICACY-
Petrilla A. and Barsy G. State Inst. of Hyg., Budapest - ACTA
MICROBIOL. ACAD. SCI. HUNG. 1958, 5/1 (35-42) Graphs 6

Vaccination against pertussis has been compulsory in Hungary since 1953. The
vaccine is a bacterial extract containing $Al(OH)_3$-adsorbed extract antigen in an
amount equivalent to 10,000 million germs per ml. together with diphtheria and
tetanus toxoids. The present schedule of vaccination is to immunize infants at the
age of 6 to 11 months by 2 inoculations made at an interval of 4 weeks, and to re-
vaccinate 1 year later. Children at the age of 6 yr. are also revaccinated. The
results show 20 to 30% protection in the age groups of 1- and 3-year-old children
who had received single doses, and about 50% protection in the 2-year-old children
who have had 2 doses of vaccine. No protective effect was observed in the 6- and
7-year-old children.
Farkas - Budapest (XVII, 50)

PETRILLA, Aladar, Dr.

Results of poliomyelitis vaccinations in 1957. Orv. hetil. 99 no.35: 1193-1200 31 Aug 58.

1. Az Orszagos Kozegeszsegugyi Intezet (Igazgato: Bakacs Tibor dr.) kozlemenye.
(POLIOMYELITIS, prev. & control
vacc. in Hungary during epidemic in 1957, evaluation, statist. (Hun))

PETRILLA, Aladar, Dr.

The so-called Asian influenza epidemic of 1957. Orv. hetil. 99 no.30:
1016-1021 27 July 58.

1. Az Kozegeszsegugyi Intezet (foigazgato: Bakacs Tibor dr.) kozlemenye.
Orszagos.
    (INFLUENZA, epidemiol.
        Asian. in Hungary, epidemic in 1957 (Hun))

PETRILLA, A.; BARSY, G.

Vaccination against pertussis; an appraisal of its efficacy. Acta microb.
hung. 5 no.1:35-42 1958.

1. State Institute of Hygiene, Budapest.
        (WHOOPING COUGH, prev. & control
            vacc. in Hungary using diphtheria-pertussis-tetanus vaccine,
            efficacy)

PETRILLA, Aladar, Dr.; BARSY, Gyula, Dr.

> Results of pertussis vaccination. Orv. hetil. 98 no.34:917-922
> 22 Aug 57.
>
> 1. Az Orszagos Kozegeszsegugyi Intezet (foigazgato: Tako Jozsef dr.)
> kozlemenye.
> > (WHOOPING COUGH, prev. & control.
> > > diphtheria-pertussis-tetanus vacc. in Hungary, statist.
> > > (Hun))

PETRILLA, A., Prof.

Change in the epidemiological features of acute infectious
diseases during the last fifty years in Hungary. Ther.hung.
8 no.1-2:3-10 '60.

1. State Institute of Hygiene (Director: Dr. T.Bakaos), Epidemio-
logical Department (Head: Prof. A.Petrilla, Budapest.
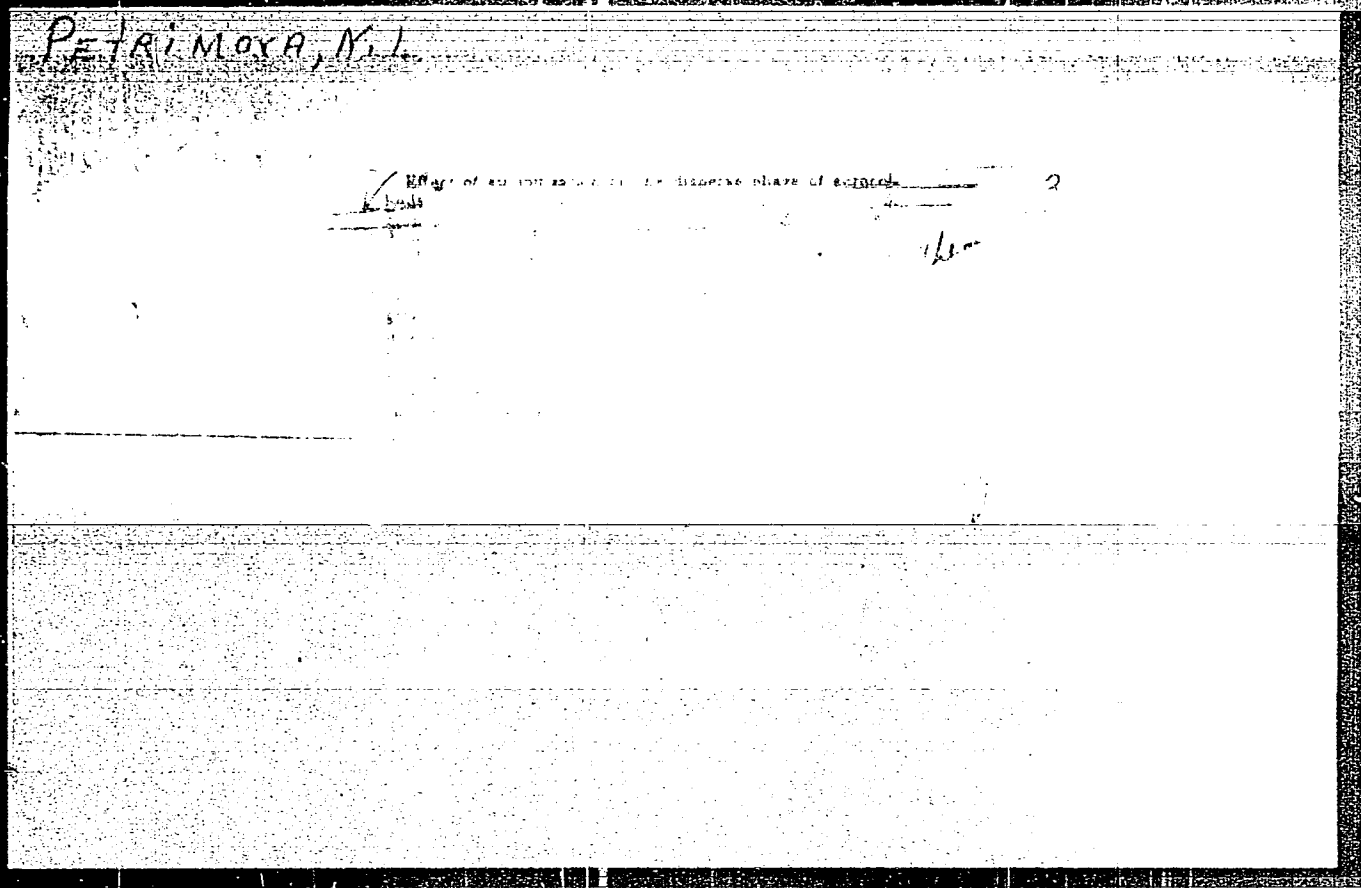   (COMMUNICABLE DISEASES epidemiol)

Peterimova, N. I.

1929

3

ON THE EFFECTS ON AIR IONIZATION ON THE DIS-
PERSED PHASE OF AEROCOLLOIDS. E. M. Mershanov,
N. I. Peterimova, and N. S. Smirnov (Moscow Inst. of
Geophysics). Kolloid. Zhur. 18, 674-7(1956) Sept.-Oct.
(In Russian)

Experiments showed that increased ionization of the
dispersion medium increases the concentration of the dis-
persed phase of aerocolloids. For the concentration of up
to 10^6 to 10^7 ionic pairs in the regular atmosphere, with
relative humidity of not over 100%, the concentration of
ultramicroscopic particles increased 3 to 4 times and the
number of nuclear condensation more than 10 times.
(R.V.J.)

PETRIKOVSKIY, Ye.L.

Automatic attachment used in drawing edges. Stan.i instr. 29
no.1:31-32 Ja '58.   (MIRA 11:1)
                    (Shapers--Attachments)
                    (Drawing (Metalwork))

PETRIMOXA, N.I.

Effect of ... the disperse phase of extract.   2

PETRIN, A., inzhener; MAKSIMOV, P., inzhener.

Built in 19 days. Sel'.stroi. 11 no.3:7-9 Mr '57. (MLRA 10:5)
(Sakiai—Building)

PETRIN, A.

USSR (600)

Radio - Receivers and Reception

Elimination of interference in network receivers., Radio, no. 8, 1952.

L 5079-66   EWT(m)/T/EWP(t)/EWP(b)/EWA(c)   IJP(c)   JD

ACC NR: AP5024564   UR/0070/65/010/005/0754/0756
                                     648.5:539.23

AUTHOR: Petrin, A.I., Kurov, G.A.

TITLE: Vaporization of silicon for the purpose of obtaining epitaxial films

SOURCE: Kristallografiya, v. 10, no. 5, 1965, 754-756

TOPIC TAGS: silicon single crystal, epitaxial growing, single crystal growing, metal vapor deposition

ABSTRACT: In order to avoid the contamination of silicon films, the vaporization of silicon was carried out from a molten zone forming a bridge between the tips of two silicon electrodes through which an electric current was passing. The molten zone is held together by surface tension (see Fig. 1 of the Enclosure). A mobile electrode served to reestablish the contact between the two main electrodes in case of instability of the molten zone. Single-crystal films of p-type silicon 3-4μ thick were obtained in a vacuum on the (111) plane of substrate p-type silicon single crystals at substrate temperatures from 950 to 1100C. The structure of the films was checked by electron diffraction, and was found to possess a relatively high degree of perfection. The films had the following electric properties; electrical resistivity 0.03 — 0.04 ohm cm: hole mobility at room temperature 120—130 cm^2/v sec. Orig. art. has: 2 figures.

Card   1/3

L 5079-66

ACC NR: AP5024564	UR/0070/65/010/005/0754/0756	/

ASSOCIATION: Institut kristallografii AN SSSR(Institute of Crystallography, AN SSSR)

SUBMITTED: 21Apr65   ENCL: 01   SUB CODE: SS

NO REF SOV: 004   ONLY: 005

Card   2/3

L 5079-66

ACC NR, AP5024564   ENCL: 01
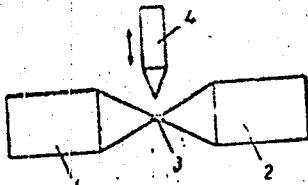
Figure 1. Diagram of the arrangement of silicon electrodes
      1, 2 - current-carrying silicon electrodes;
      3 - molten zone; 4 - auxiliary mobile
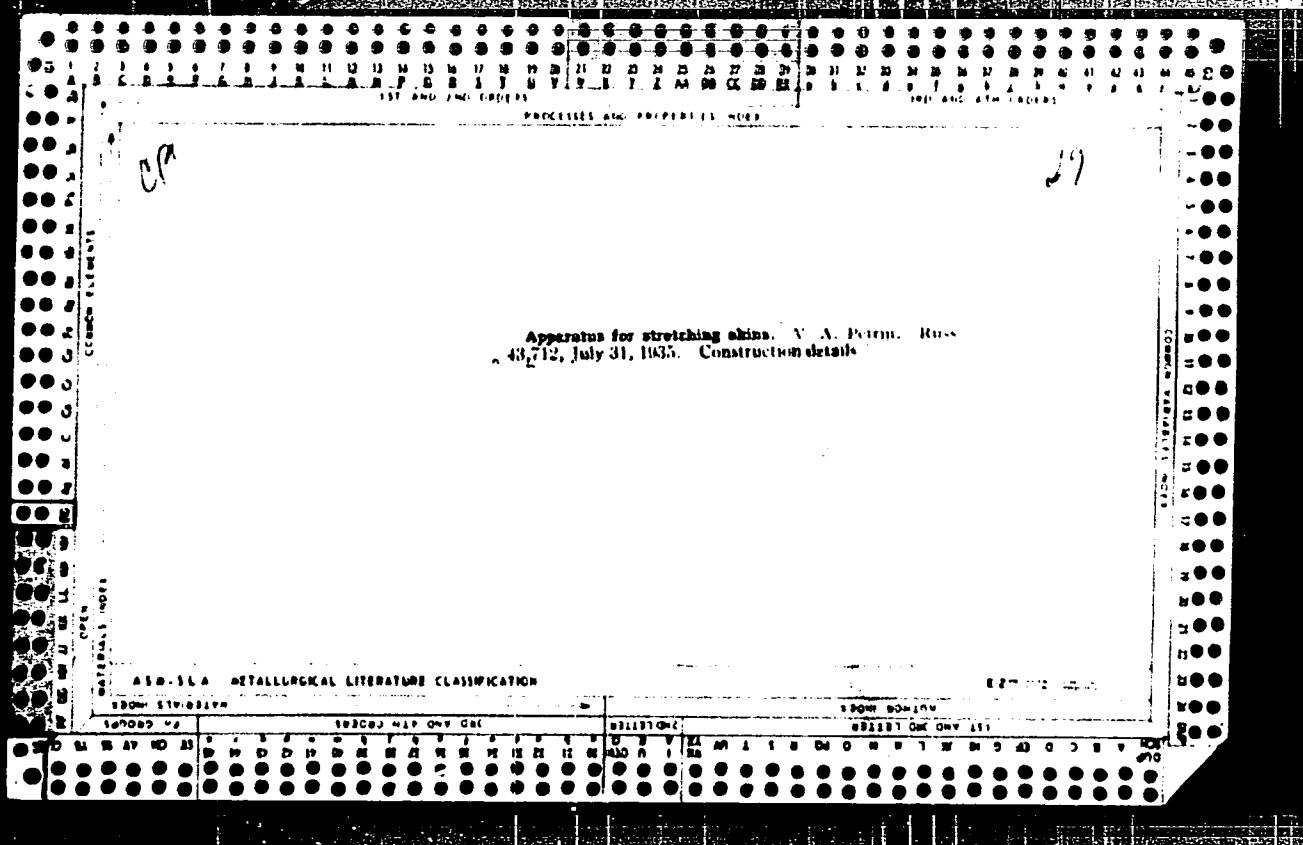   (silicon) electrode.

Card   3/3

MEZENTSEVA, N.L.; PETRIN, A.I.; KUROV, G.A.

Epitaxy of germanium films on germanium during vaporization under vacuum.
Fiz. tver. tela 6 no.7:2026-2031 Jl '64.   (MIRA 17:10)

1. Institut kristallografii AN SSSR, Moskva.

BUBYREVA, N.S.; PETRIN, B.K.

Effect of solid impurities on crystallization in the system iron
nitrate - nitric acid - water. Zhur.fiz.khim. 37 no.1:157-160
Ja '63.   (MIRA 17:3)

Apparatus for stretching skins. V A. Petrm. Russ 43,712, July 31, 1935. Construction details

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

8(0)   SOV/112-59-4-7251

Translation from: Referativnyy zhurnal. Elektrotekhnika, 1959, Nr 4, p 115 (USSR)

AUTHOR: Petrin, Yu. N.

TITLE: Electric Millisecond Delaying Timer

PERIODICAL: Byul. nauchno-tekhn. inform. M-vo geol. i okhrany nedr SSSR,
    1957, Nr 7 (12), pp 72-73

ABSTRACT: An electric timer is offered for short-delay blasting at open mine-
    works. The timer is actually an electrical stopwatch in a wooden box which
    bears 3 binding posts for connecting the detonators and the supply. The stop-
    watch is described in detail, and its sketches are given.

                                                         T.A.K.

Card 1/1

ACCESSION NR: AP4019219   S/0056/64/046/002/0544/0554

AUTHOR: Petrina, D. Ya.

TITLE: The Mandelstam representation and the continuity theorem

SOURCE: Zhurnal eksper. i teor. fiz., v. 46, no. 2, 1964, 544-554

TOPIC TAGS: Mandelstam representation, continuity theorem, Landau
surface, Feynman diagram, envelope diagram, Kim diagram, tetrahedron
diagram, open envelope diagram

ABSTRACT: Following earlier work by the author (DAN SSSR, 9, 808,
1963; Ukr. Matem. zh., v. 16, 31, 1964) showing that the behavior
of the Landau curves in the real region can indicate whether a
Mandelstam representation exists for a given Feynman diagram, it is
proved in the present paper on the basis of these results that a
Mandelstam representation exists for certain relatively complicated
diagrams. Scalar particles with equal masses are considered. The

Card 1/3

ACCESSION NR: AP4019219

Landau-surface points that can be singular points of Feynman dia-
grams are identified. The Mandelstam representation is proved for
the "envelope" diagram, for the Kim diagram, and for the "tetra-
hedron" or "opened envelope" diagram. It is shown that difficulties
in this method can appear only when the Landau curves corresponding
to the singularities of the reduced diagrams have asymptotes lying
above the curves corresponding to the proper singularities of the
given diagram (ladder diagram). Work is under way to overcome these
difficulties. Certain conclusions obtained by R. J. Eden et al.
(Phys. Rev. v. 121, 1567, 1961; J. Math. Phys. v. 2, 656, 1961) are
refuted. "In conclusion I express my sincere gratitude to V. S.
Vladimirov who kindly pointed out to me the possibility of using
Bremermann's continuity theorem for the study of analytic proper-
ties of contributions from diagrams, to I. T. Todorov for acquaint-
ing me with the manuscript of this paper, and to O. S. Parasyuk for
useful discussions and constant interest in this work." Orig. art.
has: 21 formulas and 2 figures.

Card 2/3

ACCESSION NR: AP4019219

ASSOCIATION: Matematicheskiy institut AN UkrSSR (Institute of Mathematics, AN UkrSSR)

SUBMITTED: 05Jun63   DATE ACQ: 27Mar64   ENCL: 00

SUB CODE: PH   NO REF SOV: 008   OTHER: 007

Card 3/3

KOLOMYTSEV, V.I.; PETRINA, D.Ya.

One supplement to the Bogoliubov-Vladimirov thereon. Ukr. mat. zhur.
12 no.2:165-169 '60.   (MIRA 13:10)
                    (Functional analysis)

16(2)

AUTHOR: Petrina,D.Ya.   SOV/41-11-3-5/16

TITLE: -Dispersion Relationships for Inelastic Scattering in
             Unrelativistic Approximation

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1959, Vol 11, Nr 3,
             pp 267-274 (USSR)

ABSTRACT: The author considers the case where during the scattering there
             appear elasticly as well as inelasticly scattered particles. At
             first it is proved that, if the potential satisfies certain
             conditions, then the scattering amplitude $f_0(E, \tau_0)$ describing

             the elastic scattering admits an analytic continuation in the
             complex E-plane which is cut. Under further assumptions such a
             continuation is also possible for an inelastic scattering. The
             author considers the distribution of the poles of the scattering
             amplitudes in both cases. Basing on these results the author
             establishes the dispersion relations. The author thanks Yu.M.
             Berezanskiy for advices.
             There are 10 references, 4 of which are Soviet, 3 American,
             1 English, 1 French, and 1 Italian.

SUBMITTED: February 14, 1959

Card :/1

PETRIHA, D.Ya. [Petryna, D.IA.]

Seminar on the quantum field theory. Visnyk AN URSR 29
no.12:71-72 D '58.   (MIRA 12:1)

(Quantum theory)

PARASYUK, O.S.; PETRINA, D.Ya.; TATSUNYAK, P.I.

The Chellen-Leman theorem in a space with indefinite metrics.
Ukr. mat. zhur. 10 no.3:344-346 '58.   (MIRA 11:11)
                         (Field theory)

PETRINA, D.Ya.

Proof of the Mandelstam representation for a ladder diagram of the
sixth order. Zhur. eksp. i teor. fiz. 47 no.2:524-529 Ag '64.

(MIRA 17:10)

AUTHOR: Petrina, D. Ya.

TITLE: Proof of Mandelstam representation for a sixth-order ladder diagram

SOURCE: Zh. eksper. i teor. fiz., v. 47, no. 2, 1964, 524-529

TOPIC TAGS: quantum electrodynamics, singular function, complex variable, singular integral, continuity

ABSTRACT: The proof presented is based on criterion derived in a recent paper by the author (Ukr. matem. zh. v. 16, 31, 1964; ZhETF, v. 46, 544, 1964) for the correctness of the Mandelstam representation. This criterion is made more precise in the present paper and the Mandelstam representation is proved for a sixth-order ladder diagram with all particles assumed to have an equal mass m = 1. The contribution of such a diagram, F(s, t) is shown to be holomorphic

Cord   1/2

ACCESSION NR: AP4043626

on the physical sheet. The continuity theorem is used for this pur-
pose. It is shown specifically that the existence of complex singu-
lar points on the physical sheet contradicts the continuity theorem.
Possible generalizations of the result are indicated. Orig. art.
has: 1 figure and 6 formulas.

ASSOCIATION: None

SUBMITTED: 24Dec63   ENCL: 00

SUB CODE: GP, MA   NR REF SOV: 007   OTHER: 010

Cord   2/2

R.3500

AUTHOR: Petrina, D.Ya.

TITLE: The Solution of the Inverse Diffraction Problem

TEXT: Let B be a finite region with the boundary Σ in the three-dimensional space E.
The direct diffraction problem consists in the determination of a solution of

(1)
$$\Delta u + k_1^2 u = 0 , \qquad \bar{x} \in B$$
$$\Delta u + k_0^2 u = 0 , \qquad \bar{x} \in E - B$$

for which on Σ it holds

(2)
$$(u)_1 = (u)_0, \quad \left(\frac{\partial u}{\partial \bar{n}}\right)_1 = \left(\frac{\partial u}{\partial \bar{n}}\right)_0$$

where k_0, k_1 are real, the index 0 denotes the limit value from the
Card 1/3

88308

S/041/60/012/004/009/011
C111/C222

The Solution of the Inverse Diffraction Problem

interior and the index 1 denotes the limit value from the exterior. For
large $\overline{x}$ the solution $u(\overline{x})$ has the asymptotic behavior

$$(5) \qquad u(x) \approx e^{i\overline{k}_o\overline{x}} + \frac{e^{ik_o|\overline{x}|}}{\overline{x}} f(k_o, k_1, \overline{\tau}) \quad ,$$

where $f(k_o, k_1, \overline{\tau})$ is the scattering amplitude and $\overline{\tau}$ is the transferred

impulse.

The inverse diffraction problem is formulated as follows : Determine B from
the given scattering amplitude $f(k_o, k_1, \overline{\tau})$. From a representation of the

scattering amplitude given by the author in (Ref. 3) in the present paper
she obtains the relation

$$(7) \qquad \frac{\partial f(k_o, k_1, \overline{\tau})}{\partial k_o^2}\bigg|_{k_o^2 = k_1^2} = -\frac{1}{4\pi} \int_B e^{i\overline{\tau}\,\overline{y}} d\overline{y}$$

Card 2/3

S/041/60/012/004/009/011
C111/C222

The Solution of the Inverse Diffraction Problem

which is used for the solution of the inversion problem. Here f must be continued analytically from the region where $k_0^2 \neq k_1^2$ and where it is

defined in the point $k_0^2 = k_1^2$. From (7) there follows the uniqueness of the solution of the inversion problem.

There are 7 references : 6 Soviet and 1 German.

SUBMITTED: April 13, 1960

Card 3/3

45367
S/056/63/044/001/029/067
B104/B144

AUTHOR: Petrina, D. Ya.

TITLE: ·   Analytic properties of the scattering amplitude on a
potential in the first "nonphysical" sheet

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44,
no. 1, 1963, 151-156

TEXT: Like W.Zimmermann (Nuovo Cim., 21, 249, 1961) the author studies
the scattering amplitude on a Yukawa potential as a function of energy
in the second sheet of its Riemann surface. Here, unlike the
relativistic case, there is no need to prove the correctness of the
Mandelstam representation. The study is facilitated by the unitarity
condition being so simple. The analytic properties of the partial waves ·
in the first and second Riemann sheets are studied; complex poles appear
on the second sheet. Then, the total scattering amplitude on the second
sheet is investigated. An additional cut exists besides the complex
poles. This cut is formed as follows: On the first sheet, the scattering ·
amplitude is represented as the sum of two analytic expressions which,

Card 1/2

Analytic properties of the ...   S/056/63/044/001/029/067
                                                  B104/B144

in the case of real positive energy, agree with their imaginary and
real parts. On the first sheet, the jumps of the imaginary and real
parts cancel out. On the second sheet they add together. Finally each
term of an expansion of the scattering amplitude in a series with
respect to a parameter is shown to have a Mandelstam representation.

ASSOCIATION: Institut matematiki Akademii nauk Ukrainskoy SSR (Institute
               of Mathematics of the Academy of Sciences Ukrainskaya SSR)

SUBMITTED: December 17, 1961

Card 2/2

PETRINA, D. YA., CAND PHYS-MATH SCI, "ANALYTICAL PRO-

PERTIES OF AMPLITUDES IN PROBLEMS OF DIFFRACTION AND SCAT-

TERING." KIEV, 1960. (MIN OF HIGHER AND SEC SPEC ED UkSSR,

KIEV ORDER OF LENIN STATE UNIV IM T. G. SHEVCHENKO). (KL,3-61,

204).

64

AUTHORS: Parasyuk, C..., ..., ..Y.. ...!   SOV/41-10-3-13/1.
Tatsunyak, ...

TITLE: The Theorem of Chellen - Lehman in the Space With Indefinite
          Metric (Teorema Chellena - Lemana v prostranstve s indefinitnoy
          metrikoy)

ABSTRACT:The authors call attention to the close connection between
          quantum theoretical questions in Hilbert spaces with indefinite
          metric and the operational theory of these spaces. E.g. the
          so-called "ghost states" correspond to the fact proved by
          Pontryagin [Ref 4] that self-adjoint operators in considered
          spaces may possess eigenfunctions with negative norm. Further-
          more it is shown that it is possible to obtain an analogue of
          the theorem of Chellen - Lehman with the aid of the methods de-
          veloped by Kreyn and Jokhvidov [Ref 5,6] .
          There are 9 references, 5 of which are Soviet, and 4 American.

Card 1/2

16(1)
AUTHOR   Petrina, D.Ya. (Kiye)   SOV/41-10-4-6/11

TITLE: Dispersion Relations in the ___ ____ ___m Dispersionnyye
                otnosheniya v zadache difraktsii,

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, 1958, Vol 10, Nr 4,
                pp 405-412 (USSR)

ABSTRACT: Let B be a domain of the three-dimensional space E. The author
                considers the diffraction problem

$$\Delta u + k_i^2 u = 0, \quad x \in B; \quad \Delta u + k_0^2 u = 0, \quad x \in E-B; \quad u\Big|_{\Gamma_+} = u\Big|_{\Gamma_-}, \quad \frac{\partial u}{\partial n}\Big|_{\Gamma_+} = \frac{\partial u}{\partial n}\Big|_{\Gamma_-}$$

                where the solution is sought as the sum of the decreasing wave
                and the bended wave fading in infinity. Kupradze [Ref 1] proved
                the uniqueness of the solution and gave an integral representation
                of it, from which for large $|x|$ there results the following

                asymptotic behavior: $u(x) \approx \exp(ik_0 x) + |x|^{-1}\exp(ik_0 x) \cdot f(k_0, \theta, \varphi)$.

                The author investigates the behavior of the so-called scattering
                amplitude $f(k_0, \theta, \varphi)$ and states that it is continuable as a

                function of k_0 into the upper halfplane of the complex variable

Card 1/2

Dispersion Relations in the ... ...blem   SOV/4'-'0-4-6/11

k_o and that in infinity it increases not quicker than $|k_o|^6$.
On the real axis it is continuous and has two branch points.
The author thanks Professor O.S.Parasyuk.
There are 5 references, 3 of which are Soviet, and 2 American.

SUBMITTED: May 8, 1959

Card 2/2

PETRINA, D.Ya.

Dispersion relationships for nonelastic scattering in non-relativistic approximation. Ukr.mat.zhur. 11 no.3:267-275
'59.
(MIRA 13:4)

(Particles (Nuclear physics)--Scattering)

PETRINA, D. Ya.(Kiyev)

Solving an inverse problem on diffraction. Ukr. mat. zhur. 12 no.4:476-479
'60.   (MIRA 14:3)
                    (Diffraction)

S/041/61/013/004/007/007
B125/B112

AUTHOR: Petrina, D. Ya

TITLE: The impossibility of developing a nonlocal field theory in which the energy-momentum operator has a positive spectrum

PERIODICAL: Ukrainskiy matematicheskiy zhurnal, v 13, no 4, 1961, 109 - 111

TEXT: Quantum field theory was examined under the following conditions: (1) invariance with respect to the orthochronical inhomogeneous Lorentz group; (2) existence of a complete system of state amplitudes $|P_i\rangle$ which are eigenfunctions of the energy-momentum operator with the eigennumbers $(P_{10}, \bar{P}_1)$ from the cone $\Gamma^+(p_{10} \neq 0, p_i^2 = p_{10}^2 - \bar{p}_i^2 \quad 0)$; (3) nonlocal commutativity $[A(x/2), A(-x/2)] = 0$ if $x^2 < -\ell^2$ (1). The field $A(x)$ is taken to be scalar. The theorem applying to this case is proved as follows: From conditions (1) to (3) follows the local commutativity of

Card 1/3

The impossibility of developing...

the field $[A(x/2), A(-x/2)] = 0$ if $x^2 < 0$ (2). This theorem also applies to a spectrum concentrated in any point, in which the functions $f_{ij}^-(x)$ and $f_{ij}^+(x)$ can be analytically continued into the relevant cone. According to the above theorem, the construction of a nonlocal theory requires that the spectrum of the energy operator be concentrated also outside the cone Γ^+. Therefore, a Hilbert space with indefinite metrics should be used in the nonlocal theory. According to N. N. Bogolyubov, B. V. Medvedev, M. K. Polivanov, Nauchn. dokl. vyssh. shkoly, ser. fiz.-matem. nauk, No 2, 137 (1958), field theories using a Hilbert space with indefinite metrics are nonlocal. The theorem proved here states, in a sense, the contrary result. The proof offered by A. Wightman, Problèmes mathématiques de la théorie quantique des champs, Lille (1957) was not utilized for the problem under consideration. There are 10 references: 5 Soviet and 5 non Soviet. The three references to English-language publications read as follows: H. J. Bremerman, R. Oehme, J. G. Taylor, Phys. Rev., 109, 2178 (1958); H. Epstein, J. Math. Phys., 1, 524 (1960), R. Oehme, Phys. Rev., 100,

Card 2/3

PETRINA, D.Ya.

Analytic properties of partial waves of the scattering amplitude
in the theory of perturbation. Dokl.AN SSSR 144 no.4:755-758
Je '62.   (MIRA 15:5)

1. Institut matematiki AN USSR. Predstavleno akademikom N.N.
Bogolyubovym.
                              (Perturbation)

PETRINA, D.Ya.

Analytic properties of the scattering amplitude on the
potential on the first "nonphysical" sheet. Zhur. eksp. i
teor. fiz. 44 no.1:151-156 Ja '63.   (MIRA 16:5)

1. Institut metematiki AN UkrSSR.
        (Scattering (Physics))   (Riemann surfaces)

PETRINA, D.Ya.

Analytic properties of contributions of Feynman diagrams. Dokl.
AN SSSR 149 no.4:808-811 Ap '63.   (MIRA 16:3)

1. Institut matematiki AN UkrSSR. Predstavleno akademikom
N.N.Bogolyubovym.
            (Surfaces) (Functions, Analytic)

PETRINA, D.Ya. (Kiyev)

Complex singular points of contributions from Feynman
diagrams and the continuity theorem. Ukr. mat. zhur. 16
no.1:31-40 '64.   (MIRA 17:5)

L 25634-65

ACCESSION NR: AP4043514

S/0041/64/016/004/0502/0513

AUTHOR: Petrina, D. Ya. (Kiev)

TITLE: On the principle of maximal analyticity for the complex orbital momen-tum

SOURCE: Ukrainskiy matematicheskiy zhurnal, v. 16, no. 4, 1964, 502-513

TOPIC TAGS: complex orbital momentum, maximal analyticity principle, quan-tum mechanics, quantum field theory

ABSTRACT: The author investigates the principle of maximal analyticity for the complex orbital momentum in the quantum mechanics and in the quantum field the-ory by the method of normalization of diverging integrals. It was found that when the attempt is made to expand analytically the partial wave into the region $\mathrm{Re}\, l < -(1/2)$ (l is the complex orbital momentum) in quantum mechanics, or into $\mathrm{Re}\, l < N$ (N is the power of the amplitude increase of scattering in infinity) in the quantum field theory, difficulties appear which are of the same nature. There appear diverging integrals of the type $\int x^{\lambda} \varphi(x)dx$, where $\mathrm{Re}\, \lambda < -1$. This diffi-

Card   1/2

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L 25634-65
ACCESSION NR: AP4043514

culty can be overcome by normalization of the diverging integrals by analytical
extension of the above integral for the parameter λ. Yukawa potential and those
of a more general kind are considered. It is shown that for the extension into
Rel $<$ N, detailed information on the behavior of the imaginary part is needed.
Orig. art. has: no figures, 29 equations

ASSOCIATION: None

SUB CODE: GC, MA

SUBMITTED: 19Nov62

ENCL: 00

OTHER: 008

NR REF SOV: 006

Card   2/2

PETRINA, D.Ya.

The Mandel'stam representation and the continuity theorem. Zhur. eksp. i teor. fiz. 46 no.2:544-554 F '64.   (MIRA 17:2)

. Matomaticheskiy institut AN UkrSSR.

PETRINA, D.Ya. (Kiyev)

Analytic properties of a class of functions in quantum field
theory defined by integrals over a manifold. Part 1. Ukr. mat.
zhur. 17 no.5:54-66 '65.
(MIRA 18:12)

1. Submitted February 12, 1965.

PETRINA, D.Ya. (Kiyev)

Analytic properties of a class of functions in quantum field theory defined by integrals over a manifold. Part 2. Ukr. mat. zhur. 17 no.6:60-66 '65.
(MIRA 19:1)

1. Submitted June 1, 1965.

SHESTOPALOV, V.K.; PETRINA, G.A.

Redesign of the turret press. Ogneupory 28 no.4:182 '63.
(MIRA 16:6)

1. Dinasovyy zavod imeni Dzerzhinskogo.
(Refractories industry--Equipment and supplies)
(Power presses)

SHESTOPALOV, V.K.; PETRINA, G.A.

Grooved car bottoms for tunnel kilns. Ogneupory 27 no.12:568-569 '62.   (MIRA 15:12)

1. Dinasovyy zaovd im. Dzerzhinskogo.
(Kilns—Equipment and supplies)
(Firebrick)

PETRINA, Jaroslav

Lighting windowless industrial production plants by 40 w and 80 w fluorescent lamps. Elektrotechnik 19 no.8:228 Ag '64.

1. Tesla Holesovice National Enterprise, Prague.

PETRINA, Jaroslav

Industrial lighting and the 80w fluorescent lamps. Energetika
Cz 15 no.2:81 F '65.

1. Tesla Holesovice National Enterprise, Prague.