

PATSUKOV, Nikolay Grigor'yevich

DECEASED

1964

Thermoelectric power

1963

PATSUKOV, V.I.

Using the condenser spinning method for the processing of "prelana"
polyacrylonitril fibers. Tekst.prom. 24 no.1:36-37 Ja '64.
(MIRA 17:3)

1. Nachal 'nik apparatno-pryadil'nogo proizvodstva Boguslavskoy
sukonnoy fabriki imeni 1 Maya.

SPIT'YN, V.I., akad., red.; KOLLI, I.D., kand. khim. nauk, red.; ZHELIGOV-
SKAYA, N., kand. khim. nauk [translator]; KEN'KOVA, N., [translator];
PATSUKOVA, N., kand. khim. nauk [translator]; PASHINKIN, A., kand.
khim. nauk [translator]; PIKAYEV, A., kand. khim. nauk [translator];
SEMENENKO, K., kand. khim. nauk [translator]; TUROVA, N. [translator];
MANUYLOVA, G.M., red.; RYBKINA, V.P., tekhn. red.

[Inorganic polymers] Neorganicheskie polimery. Moskva, Izd-vo inostr.
lit-ry, 1961. 470 p. Translations from foreign journals.

(MI 14:13)

(Polymers)

VOSKRESENSKAYA, N.K.; PATSUKOVA, N.N.

Heats of formation of the double salts $KCl \cdot ZnSO_4$, $KBr \cdot ZnSO_4$, and $KI \cdot ZnSO_4$. Doklady Akad. Nauk S.S.S.R. 87, 219-21 '52. (MLR 5:11)
(CA 47 no.13:6241 '53)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova,
Akademiya nauk S.S.S.R., Moscow.

PATSUKOVA, N. N.

Dissertation: "Research in the Field of the Thermodynamics of Double Salts." Cand
Chem Sci, Inst of General and Inorganic Chemistry, Acad Sci USSR, Moscow 1953.
W-30928

SO: Referativnyy Zhurnal, No. 5, Dec 1953, Moscow, AN USSR (~~XXXXXXXX~~)

PATSIUKOVA, N. N.

Thermodynamic properties of salts $KCl \cdot ZnSO_4$, $KBr \cdot ZnSO_4$, and $ZnSO_4$ at high temperatures. N. N. Patukova, *Izv. Akad. Nauk S.S.S.R. Ser. Khim. i Geol. Khim.*, 1954, No. 1, p. 159-67. Change of enthalpy, $\Delta H_{298.15}^{\circ}$, of the salts $KCl \cdot ZnSO_4$, $KBr \cdot ZnSO_4$, and $ZnSO_4$ is determined in the range 500-800°K. True heat capacities and values of change of entropy, $\Delta S_{298.15}^{\circ}$, of these salts are determined in this range. Heat capacities of $KCl \cdot ZnSO_4$ and $KBr \cdot ZnSO_4$ within experimental error, coincide with additive values found from the heat capacities of the salt-components. Burilla Mayerle

M/S

Inst. Gen. & Inorg. Chem. in N.S. Kurnakov

ВОСКРЕСЕНСКАЯ, Н.К.

VOSKRESENSKAYA, N.K.; PATSUKOVA, N.N.

Heats of formation of double salts $\text{MeIHL} \cdot \text{ZnSO}_4$. *Izv. Sekt. fiz.-khim.*
anal. 26:117-122 '55. (MIRA 8:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN
SSSR. (Heat of formation) (Salts, Double)

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BELOVA, V.I.; PATSUKOVA, N.N.

Magnetic properties of double salts $\text{MeIHI} \cdot \text{ZnSO}_4$. Izv.Sekt.fiz.-khim.
anal. 26:132-137 '55. (MIRA 8:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN
SSSR. (Salts, Double)

Patsukova, N.N.

✓ Dissociation of the binary salts $KCl.ZnSO_4$, $KBr.ZnSO_4$, $PbF_2.PbCl_2$, and $KCl.MgCl_2$ on fusion. V. Ya. Anosov and N. N. Patsukova. *Zhur. Neorg. Khim.*, 1, 1223-37 (1956). Thermodynamics of the fusion of salt mixts. is

2

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related to the geometry of the m.p. curves. An extended math. derivation leads to the equation $\rho = (Q/8RT^2)[K/(X+1)]^2$, where ρ is the radius of curvature of the m.p. curve, at a point that corresponds to the compn. of the compd., R is the gas const., T is the m.p. (abs. temp.) of the compd., Q is the heat of fusion of the compd., K is the disocn. const. of compd. into its components. If α is the degree of disocn., and ΔS the entropy of fusion, the equation becomes $\rho = (\Delta S/8RT^2)\alpha$. The 4 fused salts studied have the following m.p., and degree of disocn. at the m.p., resp.: $KCl.ZnSO_4$, 701°K., 14.2%; $KBr.ZnSO_4$, 771°K., 22.6%; $PbF_2.PbCl_2$, 879°K., 32%; $KCl.MgCl_2$, 760°K., 9.4%. C. H. Ruchman 35 references.

Chem

LTH PA

Instit. Gen. & Inorg. Chem. im N.S. Kurnakov, AS USSR

PATSUKOVA, N. N.

B-8

USSR/ Physical Chemistry - Thermodynamics. Thermochemistry. Equilibrium.
Physicochemical analysis. Phase transitions

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11138

Author : Banashuk Ye I., Patsukova N.N., Rassonskaya I.S.
Inst : Institute of General and Inorganic Chemistry, Academy of Sciences USSR
Title : Thermodynamic Properties of PbFCl, PbCl₂ and PbF₂ at High Temperatures

Orig Pub : Izv. Sektora fiz.-khim. analiza IONKh AN SSSR, 1956, 27, 223-232

Abstract : In the previously described calorimeter (RZhKhim, 1955, 23243) were measured by the method of mixing, the enthalpies of PbFCl (I), PbCl₂ (II), and PbF₂ (III), at different temperatures. On the basis of experimental data were found the empirical equations: for (I)

$$\Delta H_{293,16}^T \text{ (cal/mole)} = 19.26T + 2.29 \cdot 10^{-3}T^2 - 6.18 \cdot 10^5 T^{-2} - 7940 \text{ and}$$

$$C_p \text{ (cal/mole degree)} = 19.26 + 4.58 \cdot 10^{-3} T - 6.18 \cdot 10^5 T^{-2} \text{ (solid phase, 600-879° K)}$$

$$\Delta H_{293,16}^T = 27.90 - 4350 \text{ and } C_p = 27.97 \text{ (liquid phase, 879-950° K);}$$

$$L \text{ (melt) (cal/mole)} = 8700 \text{ (T (melt) = 879° K)}$$

$$\text{For (II)}$$

$$\text{in liquid phase } \Delta H_{293,16}^T = 28.37T - 7186, C_p = 28.37, L \text{ melt.} = 5200.$$

Card 1/2

PATSUKOVA, N.N.
ANOSOV, V.Ya.; PATSUKOVA, N.N.

Reply to A. V. Storonkin's article "In regard to the article of
V. IA. Anosov and N.N. Patsukova." Zhur. neorg. khim. 2 no.11:
2684-2685 N '57. (MIRA 11:3)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova
Akademii nauk SSSR. (Salts, Double) (Fusion)

SPITSYN, Vikt. I.; PATSUKOVA, N.N. [deceased]

Heat of formation of H_2WO_4 . Zhur.neorg.khim. 10 no.11:2396-
2399 N '65. (MIRA 18:12)

1. Kafedra neorganicheskoy khimii Moskovskogo gosudarstvennogo
universiteta imeni M.V.Lomonosova. Submitted May 9, 1964.

PATSUKOVA, N.N.; LYAKHOVETSKAYA, T.Ye., red.; ZLOBIN, M.V., tekhn. red.

[My experience in increasing milk yields] Moi opyt povysheniia udoev.
Alma-Ata, Kazakhskoe gos. izd-vo, 1956. 17 p. (MIRA 11:7)

1. Doyarka kolkhoza imeni Molotova, Alma-Atinskogo rayona, Alma-
Atinskoy oblasti (for Fatsukova).
(Dairy cattle--Feeding and feeding stuffs)

USSR/Atomic and Molecular Physics - Statistical Physics. Thermo- D-3
dynamics.

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 8994

Author : Banashek, Ye.I., Patsukova, N.N., Rassonskaya, I.S.

Inst : Institute of General and Inorganic Chemistry, Academy of
Sciences USSR.

Title : Thermodynamic Properties of $PbFCl$, $PbCl_2$, and PbF_2 at High
Temperatures.

Orig Pub : Izv. Sektora fiz-khim. analiza IONKh AN SSSR, 1956, 27,
223-232

Abstract : The method of mixing is used to determine the specific
heat and melting heats of the salts $PbFCl$, and PbF_2 and $PbCl_2$.
Calorimetric measurements are used to determine the heat of
formation at 25° of the double salt $PbFCl$ from the component
salts. A reversible polymorphic transformation of PbF_2 is
observed at 450° .

Card : 1/1

SHAPIRO, I.S., inzh.; PATSULO, R.V., inzh.

Pneumatic electric-arc cutting of metals. Mashinostroitel' no.9:27-28
S '58. (MIRA 11:10)

(Electric metal cutting)

7-1, 1958-9-11 55

AUTHORS: Shapiro, I.S., Engineer, Patsulo, R.V.

TITLE: Air-Arc Cutting of Metals (Vozdushno-dugovaya rezka metallov.)

PERIODICAL: Mashinostroitel', 1958, Nr 9, pp 27-28 (USSR)

ABSTRACT: Air-arc method of cutting metals was developed in 1957 at the All-Union Scientific Research Institute of Autogenous Working of Metals and can be used for surface machining of almost all metals and alloys and for cutting hard-oxidable metals up to a thickness of 25 mm. The new method is a combination of heating and melting with the aid of carbon or graphite electrodes and simultaneous blowing of the molten metal by a jet of compressed air. General information is presented on experiences gained with air-arc cutting at various machinebuilding plants, such as: Moskovskiy zavod "Kompessor" (Moscow "Kompessor" Plant), Avtozavod imeni Likhacheva (Automobile Plant imeni Likhachev), Penzenskiy zavod khimicheskogo mashinostroyeniya (Penza Machinebuilding Plant of Chemical Equipment; Stalin-

Card 1/2

Air-Arc Cutting of Metals

NY-11748610-11 01

gradskiy zavod imeni Petrova (Leningrad Plant imeni Petrov :
Kanonerskiy sudoremontnyy zavod v Leningrade (Kanonerskiy Plant
of Ship Repair in Leningrad).

1. Cutting tools--Operation 2. Air--Applications 3. Electric
arcs--Applications

Card 2/2

PATSUBA, V., starchiy kinomekhanik (Omskaya oblast').

Shortcomings of KPU-50. Kinomekhanik no.4:30 Ap '53. (MLPA 6:6)
(Moving picture projectors)

1. KURACHEV, A., PATSURA V., KOSOV, N.
2. USSR (600)
4. Moving-Picture Projection
7. More about the article "Urgent problems"
Kinomekhanik. No.9, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953, Unclassified.

ARTYUKH, N.I.; PATSYRA, O.S.

Experience of leading workers in drugstores. Farmatsev.zhur. 19
no.1:89-91 '64. (MIRA 18:5)

1. Apteka No.63 g. Baryshevki, Kiyevskoy oblasti.

FATSYUK, A.S.

The PPR-2-40 subsoil plow. Biol. tekhn.-ekon.inform. 1961, 1:12-13.
'61. (MIRA 14:12)

(Flows)

PATSYUK, A.S.

The PRVH-1, 5 subsoiler. Biul.tekh.-ekon.inform. no.7:76-78
'61. (MIRA 14:8)

(Flows)

PATSYUK, A.S.

The RTN-2 scarifier for terraces. Biul.tekh.-ekon.inform. no.9:
70-71 '61. (MIRA 14:9)
(Cultivators)

PATSYUK, A.S.

Devices for setting trellis posts and tightening wire in vineyards.
Biul.tekh.-ekon.inform. no.8:71-73 '61. (MIRA 14:8)
(Viticulture—Equipment and supplies)

PATSYUK, A.S.

The OND-100 sprayer. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.-
nauch. i tekh.inform. no.4:78-80 '62. (MIRA 15:7)
(Spraying and dusting equipment)

PATSYUK, A.S.

The KSNU-5,7 cultivator and the BDSN-1,8 disk harrow for tillage
in orchards and berry patches. Biul.tekh.-ekon.inform. no.6:
53-57 '60. (Cultivators) (Harrows) (MIRA 13:8)

PATSYUK, A. S. ; VORONOV, I. G.

Agricultural Machinery

Ridding jute seeds of dodder and Johnson grass seeds. I. G. Voronov. A. S. Patsyuk
Sel. i sem. 19, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

VORONOV, I. G.; PATSYUK, A. S.

Just

Ridding jute seeds of dodder and Johnson grass seeds. Sel. i sme. 19 no. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. UNCLASSIFIED.

PATSYUK, A.S.

The PASSh-2,8 ammonium-herbicide machine and the OPKSh-1,2-
1,4 machine for digging root-crops. *Biul.tekh.-ekon.inform.*
no.7:48-52 '60. (MIRA 13:7)
(Agricultural machinery)

PATSYUK, A.S.

The FS-0,9 garden rotary cultivator. Biul.tekh.-ekon.inform.-
Gos.nauch.-issl.inst.nauch.i tekhn.inform. no.3:58-60 '62.

(MIRA 15:5)

(Cultivators)

VORONOV, I. G.; PATSYUK, A. S.

Jute

Ridding jute seeds of dodder and Johnson grass seeds. Sel. i sem. 19 no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, September _____ 1952 Uncl.

PATSYUK, A. S. ; VORONOV, I. G.

Agricultural Machinery

Ridding jute seeds of dodder and Johnson grass seeds. I. G. Voronov. A. S. Patsyuk
Sel. i sem. 19, No. 6, 1952.

9. Monthly List of Russian Accessions. Library of Congress, September 195~~2~~³, Uncl.

PATSYUK, A.S.

The SKON-2, 8B planter. Biul.tekh.-ekon.inform. no.3:51-52
'61. (MIRA 14:3)
(Planters(Agricultural machinery))

KIRDYUCHEVA, A.I.; PATT, V.A., nauchn. red.; SHNEYDERMAN, B.A.,
red.

[Continuous and rapid method for the preparation of
dough for baked products; review of foreign patents]
Neprieryvnye i uskorennye sposoby prigotovleniia testa
dlia khlebobulochnykh izdelii; obzor inostrannykh pa-
tentov. Moskva, TsNIIPI, 1963. 31 p. (MIRA 17:9)

SHCHERBATENKO, Vadim Vladimirovich; LUR'YE, Tamara Samoylovna; PATT,
Vitaliy Aleksandrovich; MURASHEVA, O.I., red.; SOKOLOVA, I.A.,
tekhn.red.

[Use of molasses in the baking industry] Primenenie patoki
v khlebopekarnom proizvodstve. Moskva, Pishchepromizdat,
1960. 34 p. (MIRA 14:6)
(Bread) (Sirups)

EXTRACTED FROM

THE NATIONAL ARCHIVES OF THE UNITED STATES DEPARTMENT OF STATE

REF ID: A66344 (The Foreign Relations of the United States, 1919-1920, Volume 1)

DO: MONTHLY INQUIRY REPORT FROM AMERICAN AGENCIES CONCERNING THE SITUATION IN

PATUSHINSKAYA, R.A.

Atypical measles in children [with summary in English]. *Pediatrics*
36 no. 2:61-65 F '58. (MIRA 11:3)

1. Iz kafedry detskikh bolezney (zav. - prof. R.A.Patushinskaya)
Ryazanskogo meditsinskogo instituta imeni akad. I.P.Pavlova.
(MEASLES) (ANTIBIOTICS)

PATUSHINSKAYA, R.A., prof.

Scarlet fever. Zdorov'ie 6 no.9:20-21 S '60.
(SCARLET FEVER)

(MIRA 13:8)

PATUSHINSKAYA, R.A., prof.

Scarlet fever. Rab.1 sial. 36 no.10:23 0 '60. (MIRA 13:10)
(Scarlet fever)

ARONOVICH, V.V., PATUSHINSKAYA, R.S.

Automatic control of the direct hydration of ethylene.
Khim.prom. 2:143-147 My '60. (MIRA 13:?)
(Ethylene) (Hydration)

ARONOVICH, V.V. (Moskva); ANISIMOV, I.A. (Moskva); LYUDMIRSKIY, M.I.
(Moskva); PATUSHINSKAYA, R.S. (Moskva)

Quality control of some processes in the chemical industries.
Avtom.i telem. 21 no.6:821-832 Je '60. (MIRA 13:7)
(Automatic control) (Chemical engineering)

TATUSKINSKY, T.

Fish Trade - Prices

A reduction which must be recognized. Fish. J. vol. 1953 No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

PATUSHINSKIY, G.I.

KEVORK'YAN, A.A.; PATUSHINSKIY, G.I.; CHEREPANOVA, G.N.

Liver diathermy as a method of treating mercurialism. Trudy AMN
SSSR 31:136-140 '54. (MLRA 7:10)

(Diathermy) (Mercury--Toxicology)

IVANOVA, V.A.; PATSYUK, M.L.; KOZLOVA, E.A.; Primala uchastiye
LESHCHUK, L.F.

Preparation of furfurole by the "Aggrifuran" battery method.
Sbor.trud. NIIGS 11:119-126 '63. (MIRA 16:12)

PATVAROS, Jozsef, okleveles banyamernok, a muszaki tudomanyok
kandidatusa, tudományos kutató

Concentration of the mining of multiple-seam coal deposits.
Bany lap 97 no. 2:73-78 F '64.

1. Nehézipari Műszaki Egyetem Banyaműveléstani Tanszék,
Miskolc.

PATVAROS, Jozsef, okleveles banyamernok

Foundations for the technical and economic evaluation of losses
in the coal resources at the installation of new shafts. Bany
lap 96 no.2:83-88 F '63.

1. Nehezipari Muszaki Egyetem Banyamuvelestani Tanszeka, Miskolc.

PATVAROS, J.; FALLER, G.

"Report on the coal-mining section of the permanent "Industrial and Agricultural Exhibition" in Moscow." (To be contd.) p. 292.

BANYASZATI LAPOK. (Magyar Banyaszati es Kohaszati Egyesulet). Budapest, Hungary, Vol. 12, No. 13, July 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,
August 1959.
Uncla.

FALLER, Gusztav, okleveles bányamernok; PATVARÓ, Jozsef, okleveles
bányamernok

Soviet-made mining machinery. Bary lap 93 no.8:539-540
Ag '60.

1. Bányászati Kutató Intézet (for Faller).
2. Nehézipari Huszáki Egység. Bányaműveléstani Tanszék,
Miskolc (for Patvaros .

PATVARCS, Jozsef, okleveles banyamernok

Some investigations in connection with the simultaneous and non-simultaneous working of steep-pitched coal seams closely situated to one another. Bany lap 96 no.6:377-383 Je '63.

1. Nehezipari Muzsaki Egyetem Banyamuelestani Tanszek,
Miskolc.

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

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

SCIENCE: Gyula,

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FALIER, Gusztav, okl. bányamérnök, egyetemi adjunktus; FATVARCS, József,
okl. bányamérnök, egyetemi tanársegéd

Soviet mining machinery. Bány lap 93: no. 1:36-38. Ja '66

FALLER, Gusztav, okleveles bányamérnök, egyetemi adjunktus;
PATVAROS, Jozsef, okleveles bányamérnök, egyetemi tanárséged

Soviet mining machines. Bany lap 93 no.1:36-38 Ja '60.

1. Nehézipari Műszaki Egyetem Bányaművelési Tanszék, Miskolc.

FALLER, Gusztav, okl.banyamernok.; PATVAROS, Jozsef, okl.banyamernok.

Soviet mining machinery. Bany lap 93 no.6:410-411 Je '60.

1. Banyaszati Kutato Intezet (for Faller). 2. Nehezipari
Mussaki Egyetem, Banyamuvelostani Tarszek, M skolc (for
Patvaros).

FALLER, Gusztav, okl. banyamernok; PATVAROS, Jozsef, okl. banyamernok.

Shaft boring machines. Bany lap 93 no. 3:539-540. Ag'60.

1. Banyaszati Kutato Intezet (for Faller).
2. Nehezipari Muszaki Egyetem, Banyamuvelési Tanszek, Miskolc (for Patvaros).

PATVAROS, Jozsef, dr., okleveles bányamérnök, a muszaki tudományok
kandidátusa, tudományos kutató

Data on the election of the main exploration system for
mineral deposits with flat and medium gradients. Bány
lap 97 no.12:815-820 1964.

1. Chair of Mining, Technical University of Heavy Industry,
Miskolc.

PATY

"Searching for looseness in vacuum equipment" by W. Gorski, St.
Pytkowski. Reviewed by Paty. Slaboprudy obzor:Suppl.:
Literatura 24 no.4:127, 129 '63.

S/275/63/000/001/008/035
D469/D308

AUTHOR: Pátý, Iubor

TITLE: Ion pump based on the principle of discharge in magnetic field

PERIODICAL: Referativnyy zhurnal, Elektronika i yeye primeneniye, no. 1, 1963, 18, abstract 1A 85 P (Czechoslovak patent, kl. 21 g, 13/30, no. 100028, June 15, 1961)

TEXT: Proposes a simplified construction of an ion pump in which the ring-shaped anode is placed separately inside the discharge tube and is not hermetically sealed to the tube walls. The anode is separated from the middle part of the tube (joined to the pumping system) by a contraction which limits the dimensions of the discharge column. The solenoid is placed near the outlet opening and contains a large number of turns per unit length. [Abstracter's note: Complete translation.]

Card 1/1

PATY, Libor

Louis Dunoyer, 1885-1962; obituary. Pokorny mat. 1:51 164.

05474
SOV/120-59-1-46 46

AUTHOR: Paty, Libor.

TITLE: A Water-flow Alarm (Signalizatsiya protoka okhlazhdayushchey vody)

PERIODICAL: Pribory i tekhnika eksperimenta, 1959, Nr 5, p 155 (USSR)

ABSTRACT: The alarm (Fig 1) consists of a glass tube with an inlet tube (adjustable) at the top and the outfall at the bottom. The water strikes a plate near the bottom, which is pivotted at O; the contacts K are open if the flow is sufficient. There is 1 figure and 1 English reference.

ASSOCIATION: Kafedra vysokochastotnoy fiziki i vakuumnoy tekhniki Karlova universiteta, Praga. (Institute of High-frequency and High Vacuum Physics at Charles University in Prague)

SUBMITTED: December 9, 1957

Card 1/1

PATY, L.

High-vacuum gas-leak valves. P 774

SLABOPROUDY OBZOR (Ministerstvo vscobenibo strojirenstvi, Ministerstvo spoju
a Ceskoslovenska vedecko-technicka spolecnost, sekce elektrotechnika) Praha,
Czechoslovakia, Vol. 20, no. 12 Dec. 1959

Monthly List of East European Accessions (EEAI), LC. Vol. 9, no. 2,
Feb. 1960

Uncl.

COUNTRY : CZECHOSLOVAKIA
CATEGORY : Laboratory Equipment, Apparatus, Their Theory,
Construction and Application
REF. ID. : EXKAm., No. 1 1969, No. 965
AUTHOR : Paty, L.; Nenzilova, R.
TITLE : A New Construction of a High-Vacuum High-Speed
Ion Pump
ORIG. PUB. : Zhurnal. fiz. khim., 1958, 3, No 6, 746-747
ABSTRACT : No abstract

COPIES: 1/1

P-7

PATY, L.

Pumping properties of the discharge manometer. p. 108. (Ceskoslovensky Casopis Pro Fysiku. Vestnik. Vol. 7, no. 1, 1957.)

SO: Monthly List of East European Accession (EEA) LC, Vol. 6, no. 7, July 1957. Uncl.

PATY, L

21
3
✓ Heat transfer in the molecular manometer. Libor
PATY (Lehrstuhl Elektronik und Vakuumphysik Karlsuniv.
Prague). *Naturwissenschaften* 46, 422-13(1959).—In us-
ing the mol. manometer (Knudsen's abs. manometer) to
measure abs. gas pressures in the range of 10^{-9} to 10 mm.
Hg, where a hot plate, a cooler suspended plate, and the
cool retaining vessel are at temps. T_1 , T_2 , and T_3 , resp.,
 T_1 and T_2 may be easily measured, but T_3 is normally
difficult to det. because of the delicacy of suspension.
The usual assumption of $T_2 = T_3$ is shown to be somewhat
in error, leading to errors of 2-6% in the range of 35-200°
and the pressure range cited above. Herbert A. Pohl

gt

ACC NR: AP6032754

SOURCE CODE: CZ/0030/66/000/008/0242/0243

AUTHOR: Paty, L. (Doctor)

ORG: Department of Electronics and Vacuum Physics, Karlovy University, Prague
(Katedra elektroniky a vakuove fyziky Karlovy university)

TITLE: Cryosorption method for ultra high vacuums in small glass systems

SOURCE: Jemna mechanika a optika, no. 8, 1966, 242-243

TOPIC TAGS: cryogenics, cryogenic engineering, cryogenic pump, vacuum pump, sorption

ABSTRACT: The author describes a cryosorption air pump especially designed to attain in one day a pressure below 10^{10} torr using only liquid nitrogen. For the study of molecular sorption and desorption it is essential to use an ultra-high vacuum air exhauster employing neither oil or titanium, which produces light hydrocarbons in surface reactions, particularly methane. Small glass ultra-high vacuum systems can be used to attain pressures as low or lower than 10^{10} mm Hg without titanium. These are cryosorption air pumps with a molecular sieve chilled by liquid nitrogen. The authors' patented design for such an air pump is described, referring to a drawing and mentioning a Simax glass cylinder containing a granular molecular sieve fixed to nickel foil with connections for electric current to degass the foil. This cylinder is immersed in a Dewar vessel with liquid nitrogen. When a water air pump is connected with two such exhausters and an ionization manometer, the whole system can be degassed in a few

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ACC NR: AP6032754

hours, a vacuum below 10^{10} mm Hg is attained in the course of a working day and the residual gases are entirely free of hydrocarbons. Orig. art. has: 1 figure.

SUB CODE: ^{13,20/}~~13~~ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 005

Card 2/2

27057/00/000/005/002/016
E193/E382

AUTHOR

Parv Libet

TITLE

On the Present State of Low Pressure Physics

PERIODICAL

Ceskoslovenský časopis pro fyziku, 1960
No. 5 PP 380-391

TEXT The last few years have seen a rapid development of vacuum techniques and the methods of producing and measuring very low pressures. The equipment produced in this field ranges from the vacuum installations for melting and casting of metals, large equipment for accelerating particles up to high energies and special laboratory equipment for producing extremely low pressures (down to 10^{-10} mm Hg) diffusion pumps capable of evacuating at the rate of several thousand litres per second, as well as diffusion pumps for pressures as low as 10^{-10} mm Hg have been constructed. New principles in the construction of pumps have been introduced, such as those based on the evaporation of titanium. Rotary pumps, condensation and turbomolecular pumps. The low pressure

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E192/E362

On the Present State of Low-pressure Physics

techniques have become widely used in industry such as electronics, metallurgy, chemical industry, optical industry, distilleries, pharmaceutical industry, as well as the food industry. Low-pressure technology has become extremely important in physics - in particular, in nucleonics. Low-pressure physics has to consider the phenomena occurring in a volume of gas or rarefied gas as well as the surface phenomena taking place at the boundary between a wall and a low-pressure medium. The theoretical description of the volume phenomena such as movement of a gaseous medium is usually in poor agreement with the experimental data, unless it can be assumed that the collisions of the molecules with the walls are instantaneous, i.e. the attachment time of a molecule to the wall is extremely short. However, in general, this assumption is not true. In particular, in ultrahigh vacuum it is necessary to consider the processes of evaporation and condensation of the molecules at the walls as well as the sorption and desorption, evaporation and condensation of the molecules of gases and vapours. In order to reduce the evaporation and condensation of the wall molecules in a vacuum

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E192/E382

On the Present State of Low pressure Physics

system, it is necessary to choose suitable materials in which these phenomena are present to a very small degree. Such materials are characterized by the so called condensation coefficients. This coefficient can be measured experimentally. The processes of sorption and desorption in vacuum systems take the form of adsorption, chemical sorption and absorption, as well as the reverse desorption processes. The chemical sorption process is due to the chemical affinity between the gas molecules and the molecules or ions of a solid substance. The absorption of gas molecules is due to the diffusion of the adsorbed molecules to the walls of the system. The condensation and evaporation of gases and vapours, the surface diffusion of the adsorbed molecules and the activated adsorption are further surface phenomena which have to be taken into account. The equipment of producing very low pressures can be divided into two classes. The first class of the evacuating devices is based on the transport of molecules by the pump from the system to be evacuated into the surrounding medium or an auxiliary evacuating system.

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E192/E382

On the Present State of Low pressure Physics

The second class is based on the binding of the molecules to a suitable evacuating medium. The diffusion pumps, turbomolecular and gas discharge pumps belong to the first group. By means of modern diffusion pumps it is possible to produce vacua down to 10^{-11} mm Hg. The turbomolecular pump permits

evacuation down to 10^{-10} mm Hg and it is advantageous in that it employs no liquid working medium. Secondly, its evacuation rate is independent of pressure over a wide range of pressures. The gas discharge pump employs the method of ionising molecules of the evacuated gas in a magnetically-focused discharge and their removal to "negative" electrodes where they ^{are} recombined and then removed into the surrounding medium through the outlet holes in the pump. The ionic evacuation, the condensation evacuation based on the evaporation of a metal and the condensation evacuation belong to the second class of the evacuating devices. The evacuating mechanism in the case of ionic pumping is based on the sorption of activated particles of the evacuated gas by the negatively charged walls of an ionic pump. The pumps based on the properties of the

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E192/E382

On the Present State of Low-pressure Physics

evaporated metal are probably the most successful, and are widely used in ultrahigh-vacuum techniques. The evacuation mechanism is based on the chemical binding, chemical sorption, physical adsorption and absorption of the molecules in that the gas molecules react with a chemically active metal such as titanium or barium and are adsorbed in the layer of the metal which is evaporated on the walls of the pump. By means of these devices, it is possible to obtain high evacuation rates and pressures down to

10^{-10} mm Hg. The condensation method permits the evacuation down to 10^{-13} or 10^{-14} mm Hg. Low pressures can be measured by the McLeod gauge down to 10^{-8} mm Hg. The indirect measurement is usually based on the ionisation methods and by means of the Bayard-Alpert device it is possible to measure pressures down to 10^{-11} mm Hg, while the Hobson Redhead equipment permits measurement down to 10^{-14} mm Hg. The

Card 5/6

PATY, L.: PLIKHTA, L.

Injecting a fixed quantity of mercury into a vacuum system. Prib.
i tekhn. eksp. 6 no.1:197-198 Ja-F (MIRA 14:9)

i. Tesla Goleshovitse, Praga.
(Vacuum apparatus)

VOSKRESENSKIY, S.S.; POSTOLENKO, G.A.; SIMONOV, Yu.G.; PATYK-KARA,
N.G.; ANAN'YEV, G.S.; PIMENOVA, R.Ye.; YEVTEYEVA, I.S.;
KUZNETSOVA, L.T.; SOROKINA, Ye.P.; ZCRIN, L.V.;
SLADKOPEV'TSEV, S.A.; ARISTARKHOVA, L.B.; MEDVEDEVA, N.K.;
LOPATINA L.I., red.

[Geomorphological studies; work experience in southeastern
Transbaikalia, eastern Fergana, central Kazakhstan, and
the Caspian Lowland] Geomorfologicheskie issledovaniia;
opyt rabot v Iugo-Vostochnom Zabaikal'e, Vostochnoi Fergane,
1Sentral'nom Kazakhstane i Prikaspiiskoi nizmenosti. Mo-
skva, Izd-vo Mosk. univ., 1965. 275 p. (MIRA 18:7)

PATY, Libor

"Ionized gases (basic processes)" by E. Badarau, I. Popescu.
Reviewed by Libor Paty. Slaboproudy obzor 24 no.8:438 Ag '63.

Z/037/60/000/005/037/056
E192/E382

AUTHORS: Pátý, Libor and Neužil, Milan

TITLE: The Evacuation Processes in Diffusion Pumps

PERIODICAL: Československý časopis pro fysiku, 1960,
No. 5, pp. 435 - 442 + 1 plate

TEXT: The evacuation processes in diffusion pumps were investigated experimentally. The system used in the investigation is shown in Fig. 2, where B is the glass envelope of the pump; T is the system of jets; H is a heater; V is an inlet aperture; W is an output aperture, IM is an ionisation vacuum gauge; N is a cold trap; I is a "shallow" probe and A is a deep probe (entering the operating region). First, the tightness of the vacuum system was investigated and then the limiting pressure was measured as a function of the heater power. In all these measurements, the condensable vapours were caught by a trap which was cooled by liquid nitrogen. The lowest limiting pressure of 1.7×10^{-8} mm Hg was achieved at a heater power of 344 W, provided the ionisation gauge was adequately degassed.

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E1927/2382

The Evacuation Processes in Diffusion Pumps

The measurement of the dependence of the limiting pressure on a constant stream of hydrogen (4.2 $\mu\text{l./sec}$), which was let in by various probes, was carried out. This was done at various values of the heater power. The magnitude of the limiting pressure was measured when the heater temperature reached its steady value. The results of these measurements are shown in Fig. 4. Curves 1-9 in the figure correspond to various heater powers and illustrate the dependence of the limiting pressure on the position of the hydrogen admission probes (probes I-X). The magnitude of the limiting pressure corresponding to the admission of the hydrogen by the probes entering the operating region (probes A-E) is denoted by the points lying on the dotted straight lines. The variation in the limiting pressure was 1.3×10^{-6} to 1×10^{-5} mm Hg, depending on the position of the probes. The experimental results can be analysed satisfactorily on the basis of the Skobelkin-Yushchenkova theory (Ref. 5), which assumes the existence of two processes in a gas stream. This theory is further corroborated by the results obtained by Florescu (Ref. 13). The authors thank the Chair of Electronics and Vacuum Physics for providing the

Card 2/3

PATY, Libor

An experimental apparatus for obtaining extremely low pressures.
Slaboproudý obzor 21 no.2:106-109 '60. (EEAI 9:6)

1. Katedra elektroniky a vakuové fyziky, Karlova universita, Praha.
Zamestnov v n.p. TESLA, Holesovice.
(Vacuum pumps)

PATY, Libor

"Sixty years of quartz glass, twenty five years of optical engineering." reviewed by Libor Paty, Bratislava, Slovakia. 6:Suppl:literatura 25 no.6:125-126 1961

FATY, Liber

Rudolf Jaekel; obituary. Poroxy mat fyz astr 8 n .5:287-288
'63.

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Z/039/60/021/02/011/037
E192/E535

9.4250

AUTHOR: Pátý, Libor

TITLE: An Experimental Equipment for Producing Very Low Pressures

PERIODICAL: Slaboproudý obzor, 1960, Vol 21, No 2, pp 106-109

ABSTRACT: The equipment is illustrated diagrammatically in Fig 1. It consists of an ultra high vacuum system, UVV, and an auxiliary high vacuum system, VV. The UVV consists of a titanium pumping element TE, an ionization gauge of the Bayard-Alpert type, IM, with a heated cathode and an indium stop cock, IV, which connects the ultra high vacuum system with VV. The pumping element of the UVV is in the form of a cylinder whose lower portion contains two heated tungsten filaments. When the filaments are brought in contact with a titanium wire a quantity of titanium is evaporated. The lower portion of the cylinder is narrower than the upper one and contains a glass tube with a small iron cylinder inside it. The upper end of the tube carries a molybdenum support. The titanium wire is fixed to this support. The tube can be moved by means of a

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An Experimental Equipment for Producing Very Low Pressures

10^{-11} mm Hg. The evacuation procedure is discussed in some detail.

There are 3 figures and 16 references, 3 of which are Czech, 2 Soviet, 2 German and 9 English.

ASSOCIATION: Katedra elektroniky a vakuové fyziky, Karlova universita, Praha (Chair of Electronics and Vacuum Physics of the Charles University, Prague)

SUBMITTED: August 25, 1959



Card 3/3

CZECHOSLOVAKIA/Electronics - Vacuum Technique

H-9

Abstr Jour : *Ref Zhur - Fizika*, No 10, 1958, No 23391

Author : *Faty Liber*

Inst : *Not Given*

Title : *Progress in the Physics of Superhigh Vacuum*

Orig Pub : *Fizichesky List., fiz., i astron.*, 1957, 2, No 5, 637

Abstract : Report on accomplishments in the high frequency and high vacuum laboratory of the Karlovy University (Prague) in the region of high vacuum. (production of pressures on the order of 10^{-11} mm mercury, use of new structural units of vacuum apparatus, ultrahigh vacuum valves with indium, and ionic pumps of high productivity.

Cerd : 1/1

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PATY, Libor

"Ultrahigh vacuum" by E.A.Trendelenburg. Reviewed by Libor Paty.
Cs cas fys 15 no.3:273-279 '65.

1. Chair of Electronics and Vacuum Physics of the Faculty of
Mathematics and Physics of the Charles University, Prague.
Submitted October 1, 1964.

CZECHOSLOVAKIA/Electronics - Vacuum Technique

H-9

Abs Jour : Ref Zhur - Fizika, No 12, 1958, No 28085

Author : Paty Libor

Inst : Not Given

Title : Ionic Pumps and Processes that Occur in Them.

Orig Pub : Pokroky mat., fys. a astron., 1958, 3, No 1, 46-52

Abstract : A survey is given of the constructions and physical principles of operation of ionic pumps. Bibliography, 17 titles.

Card : 1/1

PATY, I.

"High-powered vacuum pumps based on getter effect of evaporated titanium." p. 26f.

SLABOPROUDY OBZOR. (MINISTERSTVO PRESNEHO STROJIRENSTVI, MINISTERSTVO SPOJU A VEDECKA TECHNICKA SPOLECNOST PRO ELEKTROTECHNIKU PRI CSAV.) Praha, Czechoslovakia, Vol. 20, no. 4, Apr. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.
Uncl.

Distr: 4E2c(j)

/ Measurements of vapor pressure of some macromolecular materials by a radiometric manometer of high sensitivity.

Libor Pátý and Přemysl Schürer (Karlova Univ., Prague). *J. Phys.* 8, 116-23(1958)(English summary).

Several macromol. materials (butyl methacrylate fractions) possessing low vapor pressures were studied to det. their suitability for use in high-vacuum systems. Vapor pressures were detd. in special vacuum app. developed by P. and S. and equipped with a radiometric manometer based on the original Knudsen manometer (C.A. 4, 2753) and embodying various improvements to increase the sensitivity. One of these was the use of 9- μ -diam. quartz suspension wire coated with a thin film of Pt. The entire app. was made of such materials as to permit heating by induction to the temps. required for degassing and obtaining 7.6×10^{-4} mm. Hg vacuum. The phys. consta. and dimensions of the app. parts entering as members into the math. expressions for the vapor pressure were of the accuracy permitting vapor-pressure detns. within $\pm 3.5\%$ error. The app. was calibrated using Hg vapor for lower vacuum range, and the Bayard-Alpert ionization manometer for higher vacuum (Rev. Sci. Instr. 21, 571(1950)). Both methods showed that the radiometric manometer is reliable over the entire respective ranges of pressures. Vapor pressures and their dependence on temp. were detd. by 2 different methods: (1) with the vacuum pump shut off after evacuation, and (2) with the pump going. The results obtained by the 2 methods agreed well. Some of the results of measurements obtained on 7 butyl methacrylate (B) fractions are: vapor pressures 1.5×10^{-4} , 1.58×10^{-4} , 4.02×10^{-4} , 5.02×10^{-4} , 7.5×10^{-4} , 1.02×10^{-3} , 1.08×10^{-3} mm. Hg; respective mol. wts. of the fractions: mixt. of 10^5 - 10^6 , 2.5×10^5 , 3×10^5 , 2.3×10^6 , 1×10^6 , and 2.2×10^6 . Tests at various temps. showed that the vapor pressure of all fractions is fairly const. below 50° ; above that it

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Libor. Poly. Pres. of Solids

increases rapidly. The data show that I, freed of monomer is a suitable material from the point of view of vapor pressure for vacuum systems with pressures above 1×10^{-4} mm. Hg and temps. not over 50° . Some fractions of I have vapor pressures so low that they can be used in systems with pressures of the order of 10^{-6} mm. Hg. The data on the vapor pressures of the individual fractions showed that their pressures do not appear to be related to the mol. wts.; this, however, may be due to interfering effects of vapor pressures of products of decompn. of I. B. N. Daniloff

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PATY, Libor

The 2d National Conference on Electronics in Prague. Pokroky mat fyz
astr 7 no.5:291-292 '62.

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Z/037/62/000/005-6/036/049
E073/E139

2258

AUTHOR: Pátý, L.

TITLE: Vacuum cold traps with a condensation surface of a constant size

PERIODICAL: Československý časopis pro fyziku, no.5-6, 1962, 649-651

TEXT: Two types of cold trap were produced in which the release of molecules from the condensation surface caused by variations of the cooled area of this surface is completely eliminated. In one type (Fig.1) the space between the trap K and the wall of the Dewar is sub-divided by a glass cylindrical barrier. The level of the liquid nitrogen in the central part rises, due to excess pressure in the outer part. To reduce loss of coolant, the valve V which is open during the process of filling and fitting of the Dewar vessel, is so set that the rate of level rise in part A is minimal. This type of cold trap proved particularly satisfactory during the last phase of pumping of an ultra-high vacuum system prior to closing the ultra-high vacuum valve which separates it from the high-vacuum system.

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Vacuum cold traps with a ...

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In the second type of cold trap (Fig.2) the condensation element passes through the bottom of the Dewar vessel. The space is again sub-divided into an inner section A and an outer section B. The seal Z which is difficult to make and is very weak, can be replaced by using a Dewar vessel with an opening at the bottom and sealing with moistened fabric which freezes and produces a tight seal. The method of operation is similar to that of the first type. If the traps have to be used for long periods, additional coolant can be added by automatic equipment. In reply to questions it was stated that the coolant never overflowed, the level being controlled by a valve. I. Suda mentioned that in his laboratory the area of the condensation surface has been successfully stabilized by isolating the top part of the condensation element with a twin-wall cylinder, the space between the two walls being evacuated. There are 2 figures.

ASSOCIATION: Katedra elektroniky a vakuové fyziky Karlovy University, Praha (Department of Electronics and Vacuum Physics, Charles University, Prague)

Card 2/3

PATY, Libor

Ion vacuum pump. Nova technika 2 no.4:110-111 Ap '57.

PATY, Libor

The 1st Czechoslovak Conference on Electrotechnics. Pokroky
mat fyz astr 5 no.6:772-774 '60.

PATY, L.

Vacuum cold traps with a condensation surface of nonvariable size. Cs cas fys 12 no.5/6:649-651 '62.

1. Katedra elektroniky a vakuove fysiky, Karlova universita, Praha.

Part 1, 1.

Dieter HS2d

New ultra-high vacuum valve. J. PATS and P. SCHARR
 (Charles Univ., Prague). *Rev. Sci. Instr.* 28, 1051-5 (1957);
 cf. VOJTA and EVANS, *C.A.* 51, 12580g. Two in-filled valves
 for use in ultra-high vacuum techniques are described. In-
 dium was selected because of its adhesion to glass, low m.p.,
 and small value of vapor pressure. One form of the valve
 used 82 g. In and required temps. of 200° to open or shut the
 valve; it sustained prolonged outgassing as high as 500°.
 The 2nd valve was smaller and suitable for use with app.
 provided with small furnaces. Its closing passage (45 mm.)
 was only half that of the 1st valve. Vacuums as high as
 order as 10⁻¹¹ mm. Hg have been reached with the valves in
 use.

Robert A. Bleidt

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PATY, I.

New methods of measuring and obtaining an ultrahigh vacuum, p. 5.
(CHECHOSLOVAKIA: ČASOPIS PRO FYZIKU, Vol. 7, no. 5, Sept 1961, Praha,
Czechoslovakia)

10: Monthly List of East European Acquisitions (Am. Lib. J., Vol. 7, no. 1, Dec 1961, pp. 1-11).

PATY, LIBOR

The pumping properties of the cold-cathode ionization gage. Libor Paty. *Czechoslov. J. Phys.* 7, 112-16 (in English). The cold-cathode ionization gage with magnetic field (Penning gage), used for measuring pressures in the range 1×10^{-9} to 10^{-3} mm. Hg, exhibits a pumping ability which is undesirable when the gage is used for measuring low pressures, but which may adapt this instrument for use as a very simple and effective vacuum pump. Two curves are given showing decrease in pressure (from 10^{-9} to 10^{-11} mm. Hg) against pumping speed (for the inert gases: He, Ne, Ar, Kr, Xe, and N; and the active gases, C and air). Together with a Bayard-Alpert ionization gage, it should be possible to pump a sealed system—after preliminary pumping with a rotary oil pump—to a pressure of the order of 10^{-11} mm. Hg, without using a diffusion pump, liquid-air trap, or getters.

V. I. Gottschalk

Distr: 4E3d/4E4c

Handwritten marks: "1 2" and "gr V1"

PATY, L.

Measurements of the tension in some macromolecular materials by means of a radiometric manometer of great sensitivity.

p. 557 (CESKOSLOVENSKY CASOPIS PRO FYSIKU) Vol. 7, no. 5, 1957,
Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

PATY, L.

Calibration of Penning manometers for different gases, p. 368,
SLABOPROUDY OBZOR, (Ministerstvo strojirenstvi a ministerstvo
spoju) Praha, Vol. 16, No. 7, July 1955

SOURCE: East European Accessions List (EEAL) Library of Congress,
Vol. 4, No. 12, December 1955

FATY, Liber

"Satellites and scientific research" by D.King-Heale. Reviewed
by Liber Faty. *Science* 15 no.114. '64.

1. Faculty of Mathematics and Physics of Charles University,
Prague

PATY, Libor

Methods of direct measurement of upper atmosphere pressure and composition, using artificial satellite sites and rocket probes. *cas fys 15 no.2.135-154 1965.*

First International Congress on Vacuum Technique in Cosmic Research. *IB13.179-180*

1. Chair of Electronics and Vacuum Physics of the Faculty of Mathematics and Physics of the Charles University, Prague. Submitted July 26, 1964, November 17, 1964.