NEPOMNYASHCHIY, L.B.; VINOKUROVA, Ye.A. [deceased]; YEROFEYEVA, L.V.; TURETSKIY, V.S.

Preparation of Urgal coals at the "Zhilevskaia" Experimental and Industrial Coal Preparation Plant. Trudy DVFAN SSSR. Ser. khim. no.6:106-109 '62. (MIRA 17:8)

NEPOMNYASHCHIY, M.

Agriculture & Plant & Animal Industry.

During the days of spring sowing. Moskva, Goskul(tprosvetizdat, 1951.

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

NEPOMNYASHCHIY, M., sostavitel'; LEBEDEV, P.B., redaktor; YELAGIN, A.S., tekhnicheskiy redaktor

[In the interests of collective farm production; the practices of progressive rural community centers] Na sluzhbu kolkhoznomu proizvodstvu; iz opyta raboty peredovykh klubov sela. Moskva, Gos. izd-vo kul'turno-prosvetit. lit-ry, 1956. 105 p. (Bibliotechka sel'skogo klubnogo rabotnika, no.20) (MIRA 10:1)

(Community centers) (Collective farms)

NEPOMNYASHCHIY, N.I., inzhener; BAKHAREVSKIY, V.A., inzhener.

Organizing assembly work in rebuilding 127-m. rotary kilns. Tsement 22 no.1:12-15 Ja-F '56. (MLRA 9:6)
(Kilns, Rotary)

NEPOMNYASHCHIY, N. I., inshener.

Rapid repair of rotary kilns. Stroi.mat. 3 no.8:24-25 Ag '57.
(MLRA 10:10)
(Kilns, Rotary--Maintenance and repair)

Nepomnyashchiy, N. P.

86-8-8/22

AUTHOR: Nepomnyashchiy, N. P., Guards Lt. Col.

TITLE: Some Night Flight Peculiarities of Air Navigation (Nekotoryye osobennosti samoletovozhdeniya v nochnom polete)

PERIODICAL: Vestnik Vozdushnogo Flota, 1957, Nr 8, pp. 37-43 (USSR)

ABSTRACT: In this article the author describes some peculiarities of air navigation in night flights and indicates some methods by which to determine the necessary air navigational elements. According to the author, one of the basic errors, when an unilluminated target is bombed at night with the aid of radar bombsight and corner reflectors and no use is made of homing stations, is that some navigators on the last section of the route before the target depend only on the radar bombsight and neglect all other aids. The attention of such navigators is drawn by the author to the following basic rule: under all circumstances, and particularly at night, the air navigation should be carried out by the combined use of the compass, clock, and radio-technical aids and, in addition to these, the navigational devices should also be used. Due to the so-called "night effect" it becomes difficult to use the radio compass and the ground radio range stations. In order to overcome

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Some Night Flight Peculiarities of Air Navigation (Cont.)

this effect, Soviet navigators select the ground stations which are located nearest to the flight path and use the PSBN radar bombsight as much as possible, because the PSBN sight is not affected by the night effect. In all such cases when the ground surface is invisible, the homing radio station of the airfield is used as the initial point of departure. To get on the desired flight course, some predetermined pattern flying is done during which the aircraft climbs to the desired altitude. The corrections in the heading of aircraft are made only after the navigator has determined with the aid of all possible aids, the deviation of the aircraft from the desired flight route. In order to simplify the navigator's work in the air, it is suggested that pre-computed magnetic bearings on the aircraft from the radio stations should be plotted on the flight chart prior to the flight. The initial point of bomb run is approached at night and the bombs are usually released with the aid of radar bombsight or by the use of air navigation and the bombing system. With the aid of the PSBN radar bombsight it is possible to carry out orientation and to check the route by determining the position of the

Card 2/4

Some Night Flight Peculiarities of Air Navigation (Cont.)

aircraft; it is also possible to determine the main navigational elements (altitude, route angle, drift angle, ground speed, and wind). It is said that the air navigational tasks can be solved by the radar check points which appear on the screen of the radar sight, but only in conjunction with the use of a magnetic compass. For the better use of the radar bombsight the navigator, prior to the flight, must study the flight route, the system of check points with regard to their value as radar check points. For that purpose it is sometimes necessary to carry out radar reconnaissance of the route. With the aid of PSBN the Position of aircraft can be found by several methods: by the check point directly underneath the aircraft or near it; by two bearings on two check points; by two distances to two check points; by the distance to and the bearing on one check point. The last mentioned method is widely used in the Air Force units as a very simple and convenient method that does not require any supplementary computations. The drift angle also can be found by several methods. However, the radar check point, by which the drift angle is determined, must meet the following requirement: the radar check point during its movement across

Some Night Flight Peculiarities of Air Navigation (Cont.)

the screen must not change its configuration and should not disappear from the field of view of the bombsight. For that purpose, "reliable" check points such as bridges, characteristic windings of rivers, lakes, and coast lines should be selected. If such check points are not available on the route line, but are available on one or the other side of the route, the drift angle is determined by the twice taken bearings of one of such check points. Finally, the drift angle can be determined by twice measuring the slant range to the check point that is located near the flight path. Further on the author explains how to find the ground speed: by the flight time required to cover the distance between two check points underneath the aircraft; the time during which a check point passes through two scale rings; a radar check point that is located alongside the flight path. The last method, according to the author, is quite convenient to use, because the ground speed and the drift angle can be determined simultaneously.

AVAILABLE: Library of Congress

Card 4/4

NEPOMNYASHCHIY, P. T. and GRACHEV, I. I. (Chief Veterinary Surgeon, Krasnodar Trust of Milk and Animal Husbandry State Farms and Candidate of Veterinary Sciences Krasnodar NIVS).

Case of mass disease of tetanus in swine

Veterinariya, Vol. 38, No. 8, August 1961, pp. 37

GRACHEV, I.I., kand. veterin. nauk; NEPOMNYASHCHIY, P.T.

Cases of tetanus mass infection in swine. Veterinariia 38 no.8: 37-38 Ag '61 (MIRA 18:1)

1. Krasnodarskaya nauchno-issledovatel'skaya veterinarnaya stantsiya (for Grachev). 2. Glavnyy veterinarnyy vrach Krasnodarskogo tresta molochno-zhivotnovodcheskikh sovkhozov (for Nepomnyashchiy).

NEPOMNYASHCHIY, S.I. (Moskva); KIR'YANOV, V.I. (Moskva)

Device for hanging maps, posters and illustrations with the help of permanent magnets. Biol. v shkole no.6:78-79 N-D '61. (MIRA 14:11)

(Schools—Furniture, equipment, etc.)

NEPOMNYASHCHIY, S.I.; KIR'YANOV, V.I.

Device for hanging maps, poster, and illustrations with the help of permanent magnets. Khim. v shkole 17 no.1:85-86 Ja-F '62. (MIRA 15:1)

(Schools—Furniture, equipment, etc.)

NEPOMNYASHCHIY, S.I.; KIR'YANOV, V.I.

Hanging up maps and geographical pictures with the help of permanent magnets. Geog. v shkole 25 no.2:58-59 Mr-Ap '62. (MIRA 15:2)
(Geography--Audio-visual aids)

NEPOMIASHCHIY, S. I.

"Computation of Thermobimetal for Aerological Equipment," Tr. N. -i. in-ta gidromet. priborostroyeniya, No 3, 1953, pp 42-53

The bimetal "IS" is used in meteorological equipment, its thermoinertial component made of invar and its thermoactive component of low magnetism steel. Approximate formulas for computation of curvature of the bimetallic plate at its uniform heating applicable to "IS" bimetal, as well as for the bending of its free end, are given. (RZhFiz, No 7, 1955) SO: Sum.No. 713, 9 Nov 55

Мерсманский, С.И.

KEL'ZON, . Viktor Saulovich, kand.tekhn.nauk; MERSMANSKIY, Samuil Isaakovich, inzh.; DOBROKHOTOV, Yuriy Sergeyevich, kand.tekhn. nauk; OVAL'TSOV, A.N., glavnyy red.; TOLCHINSKIY, Ye.M., inzh. red.

[Miniature self-balancing electron bridge. Differential thermometer with photographically recorded readings] Malogabaritnyi samobalansiruiushchiisia elektronnyi most. Differential'nyi termometr s fotograficheskoi zapis'iu pokazanii. Moskva, 1956. 12 p. (Pribory i stend... Tema 4, no.P-56-470) (MIRA 11:2)

1. Moscow. Vsesoyuznyy institut nauchnoy i tekhnicheskoy informatsii. Filial.
(Thermometers)

NEFOMNYASHCHIY, Samuil Isaakovich, inzhener; MANUYLOV, Konstantin Nikolayevich, inzhener; TOLCHINSKIY, Ye.M., inzhener, redaktor; UDAL'TSOV, A.N., glavnyy redaktor

[Meteorographs for aircraft] Samoletnyi meteorograf. Tom 4, po. P-56-440. Moskva, Akad. nauk SSSR, 1956. 14 p. (MLRA 10:4)
(Meteorological instruments)

SOV/124-58-11-12868

Transaltion from: Referativnyy zhurnal, Mekhanika, 1958, Nr 11, p 141 (USSR)

AUTHOR: Nepomnyashchiy, S.I.

TITLE: Aerodynamic Conditions of an Aerological-instrument Drop (Aerodinamicheskiye usloviya sbrasyvaniya aerologicheskikh priborov)

PERIODICAL: Tr. N.-i. in-ta gidrometeorol. priborostr, 1957, Nr 4, pp 51-64

ABSTRACT: Bibliographic entry

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NEPOMNYASHCHIY, S.I.

KEL'ZON, V.S.; NEPOMNYASHCHIY, S.I.

Aircraft automatic electronic bridge. Trudy NIIGMP no.4:114-119 '57.
(Meteorology in aeronautics--Equipment and supplies) (MIRA 11:2)

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S/112/59/000/012/070/097
A052/A001

9.6100

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, No. 12, p. 197, # 25291

AUTHOR: Nepomnyashchiy, S.I.

TITLE: An Airborne Remote-Controlled Meteorological Station

PERIODICAL: Tr. N.-i. in-ta gidrometeorol. proborostr., 1958, No. 6, pp. 39-65

TEXT: The station is intended for the vertical and horizontal atmosphere sounding with the object of quick meteorological servicing the aviation. The advantage of the airborne remote-controlled meteorological station as compared with the airborne meteorograph is that it makes possible to obtain the data of sounding directly at the moment of observation and to transmit the results of sounding from the aircraft by radio. The station is mounted on line or special aircraft used for weather reconnaissance at an air speed of aircraft of 500 km/hour. It makes it possible to measure: a) air pressure within 1,050-250 millibars (up to 10-km altitude) with an accuracy of ± 3 millibars; b) air temperature from +40° to -60°C with an accuracy of ± 1°; c) air humidity by dew point within the range from +35°

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S/112/59/000/012/070/097
A052/A001

An Airborne Remote-Controlled Meteorological Station

to -60° with an accuracy of no lower than ± 1°; d) air velocity can be measured within the limits and with an accuracy of the standard velocity indicator УС-700 (US-700). The station consists of four measuring units, those of temperature, pressure, humidity and velocity, and performs its functions in combination with the other instruments aircraft is equipped with: the clock, high-altitude ratio altimeter, compass, accelerometer, etc. Furthermore, the station contains a converter ПАГ-1-Ф (PAG-1-F)[28] with a СФ-1 (SF-1)[28] mesh filter, an air intake and a small turbine for sucking in outside air for humidity measurements. The station has been made as a portable apparatus; all units and indicators of the station are assembled in a special casing. The weight of the station is 40 kg. The consumed power is 150 w. A description of the principle of operation, design of all four measuring units, results and analysis of flight tests are given. There are 10 illustrations and 11 references.

V.M.G.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

AUTHOR: Nepomnyashchiy, S. I. SOV/50-58-6-16/24

TITLE: A Comb-Shaped Radiosonde With a Motor (Grebenchatyy radiozond s elektrodvigatelem)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 47-49 (USSR)

ABSTRACT: A ventilator which is driven by the rising air current is used for the turning of the current commutator of the sonde RZ-049. Its work is not reliable since the air becomes thinner with increasing height. This and other shortcomings can be eliminated by the substitution of the ventilator by an motor. Such a motor (Figs 1,2) was worked out under the author's supervision. It is cheap, small, has a low current consumption and works without disturbance at great heights at low temperatures. Its construction and work are described. This motor was mounted on the mentioned radiosonde (Fig 3). The results obtained by the checking of its operation with the motor were the following: the motor can be driven in the case of an autonomous feeding of the common battery BON-3 as well as in the case of a connection of heater feeding of the radio transmitter, when the mentioned battery is used for this purpose. In the last

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case the current commutator has to be isolated from its gear by means of a connecting bush of "textolite". Checks in a thermo-barochamber of the Central Aerological Laboratory (Tsentral'naya aerologicheskaya laboratoriya = TsAO) showed that the voltage of the channel battery is reduced to 1,9 V at a temperature drop from room temperature to -57° within 90 minutes. This makes possible a normal operation of the battery in feeding the radio sonde. The problem of the feeding of the radiosonde will be decided upon only after the introduction of new, more perfect feeding sources which are at present developed. The influence of the sparking of the motor on the quality of the signal reception was checked and found satisfactory. The flying sonde reached 22,800 m within 60 minutes, at a temperature of $-52,4^{\circ}$. The audibility of the signals was satisfactory. There are 3 figures.

1. Electric motors (DC)--Design 2. Radiosondes--Applications

S/112/59/000/016/025/054
A052/A002

3,2100

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, No. 16, p. 139, # 34500

AUTHOR: Nepomnyashchiy, S. I.

TITLE: An Electric Motor for a Radiosonde

PERIODICAL: Tr. N.-i. in-ta gidrometeorol. priborostr., 1958, No. 6, pp.111-117

B

TEXT: The ЭПМ-2[13] (EPM-2)[25] midget d-c electric motor[24] is described. It is intended for the airborne radiosonde and is built with a variable gap between stator and rotor. The work of the motor and the technology of its production are described. Results of laboratory tests, data of the motor and its characteristics are given. There are 4 illustrations.

V. Ye. Kh.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

NEPOMNYASHCHIY, S.I.

Electric motor for radiosondes. Trudy NIIGMP no.6:111-117 '58. (MIRA 12:2)
(Radiosondes) (Electric motors)

3(7)
AUTHOR: Nepomnyashchiy, S. I.

SOV/50-59-1-12/20

TITLE: A New Airplane Meteorograph for Vertical Sounding of the Atmosphere (Novyy samoletnyy meteorograf dlya vertikal'nogo zondirovaniya atmosfery)

PERIODICAL: Meteorologiya i gidrologiya, 1959, Nr 1, pp 51-54 (USSR)

ABSTRACT: The described set of instruments contains: 1. A diaphragm barometer with linear characteristic and compensation of temperature variations by a bimetallic spring; measuring range 110-250 mb; 2. A bimetallic thermometer of poorly magnetized steel and invar steel, measuring range +45° - -60° C; 3. A hygrometer of degreased human hair, measuring range 20-100 % relative air moisture; 4. A speed counter (diaphragm instrument) to correct the temperature and moisture measurements, measuring range 50-300 km/h. The recording is made on sooted paper which runs over a drum with clockwork action. The new device was developed by the Engineers K. N. Manuylov and M. K. Fedorova at the Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya (Scientific Research Institute for the Construction of Hydrometeorological Apparatuses), and offers the following

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A New Airplane Meteorograph for Vertical Sounding of the Atmosphere

SOV/50-59-1-12/20

advantages in contrast to the meteorograph SM-43: higher measuring accuracy, less inertia of the thermometer and hygrometer, easier evaluation of measurements due to the compensation, and a more reliable clockwork mechanism. The author, S. I. Nepomnyashchiy, directed the work of the two above-mentioned engineers.

Card 2/2

NEPOMNYASHCHIY, S.I.

Some results of aerodynamic investigation of shields for aerological instruments. Trudy MIIGMP no.7:80-84 '59.
(MIRA 13:5)

(Meteorological instruments--Testing)

NEPOMNYASHCHIY, S.I.

Motion and tractive force of the free end of a bimetallic plate. Trudy NIIGMP no.8:86-89 '59. (MIRA 13:4)
(Laminated metals) (Meteorological instruments)

NEPOMNYASHCHIY, S. I., Cand Tech Sci -- (diss) "Basic principles of construction of elements of aerological devices with mechanical transmission." Leningrad, 1960. 8 pp; (Main Administration of Hydrometeorological Services under the Council of Ministers USSR, Main Geophysical Observatory im A. I. Voyeykov); 200 copies; price not given; (KL, 22-60, 138)

3.5600

39684
S/263/62/000/002/009/009
I004/I204

AUTHOR: Nepomnyashchiy S. I.

TITLE: Air-borne meteorograph A-10 and the results of its tests

PERIODICAL: Referativnyy zhurnal, otdel'nyy vypusk. Izmeritel'naya tekhnika, no 2, 1962, 60, abstract 32.2.450 "Tr. N.-i in-ta gidrometeorol. priborostr.", no 9, 1960, 47–59

TEXT. A description is given of an air-borne meteorograph A-10 developed in the Scientific Research Institute of hydrometeorogical instrumentation. The meteorograph serves for sounding out of the atmosphere and it is based on transformation of elastic deformations of sensitive elements when the measured value varies, into mechanical displacement of a pointer on a soot-covered band. The meteorograph consists of the following independent measuring units: pressure measuring unit containing membrane boxes with temperature compensation; temperature measuring unit with a bimetallic transducer of a low magnetic steel and invar 0.45 mm thick, bent along an arc suspended by an angle of 270°; humidity measuring unit in the form of a guitar with 6 clusters of degreased human hair, stretched between two metallic brackets; and a receiver of the velocity of the air-flow in the shaft of the instrument. The last measuring unit containing a sensitive element of thin-walled monometric tube, is of auxiliary character. According to the data concerning the air-flow in the shaft a correction is introduced, which takes into account the additional heating of the temperature — and humidity

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Air-borne meteorograph A-10 and

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transducers. The accuracy of measurement of temperature and humidity during flight is thus enhanced An arrester and an immobile pointer are provided for marking of the initial position of all pointers, switching on the clockwork and marking the beginning of counting The drum with the smoked tape together with the central axle may perform one full revolution during 2 4 or 6 hours. The housing of the meteorograph has a streamlined form. The meteorograph is a relative-measuring instrument and it measures the air pressure within 1100 to 350 millibars with an accuracy of ± 3 millibars, the temperature within the range of + 45 to − 60°C with an accuracy of ± 0 5°C, humidity within the range of 20 to 100% with an accuracy of ± 7%, and the velocity of the air flow within the 100 to 300 km. hour range. Calculation of the errors of the measuring units of the instrument and the results of the following tests are given vibrational and aerodynamic both on the laboratory and in flight The design of the shock-absorbing mount for fixing it to a frame located on the airplane is also given

[Abstracter's note Complete translation.]

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NEPOMNYASHCHIY, S.I.

Some test results of an A-13 airborne parachute radiosonde. (MIRA 15:5)
Trudy NIIGMP no.10:89-93 '61.
(Radiosondes)

NEPOMNYASHCHIY, S.I.

Calculating the natural vibrations of a pressure gauge. Trudy NIIGMP no.10:94-98 '61. (MIRA 15:5)
(Pressure gauges—Vibration)

ACCESSION NR: AT4038813 S/2778/63/000/011/0076/0095

AUTHOR: Nepomnyashchiy, S. I.

TITLE: The measurement of air temperature in flight

SOURCE: Leningrad. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Trudy*, no. 11, 1963, 76-95

TOPIC TAGS: meteorology, air temperature, temperature recording, thermometry

ABSTRACT: The author discusses the use of aircraft for atmospheric probes, pointing out that the heat-sensitive element of the temperature sensor, located in a rapidly moving stream of air, fails to record the true temperature of the ambient medium because of the possible errors in the thermometer readings. These errors are considered in detail, on the basis of mathematical analysis. Among the causes of error considered are: 1) the heating of the air layers immediately adjacent to the heat-sensitive element, as a result of braking (deceleration) and air flow friction; 2) solar radiation directly reaching the heat-sensitive element, and the radiation heat-exchange of parts of the aircraft frame and parts of the casing of the heat-sensitive element; 3) heat exchange through contact of the element with the environment; 4) cooling due to the evaporation of moisture striking the heat-sensitive element on contact with clouds, fog, etc.; 5) thermal inertia of the

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ACCESSION NR: AT4038813

heat-sensitive element; 6) overheating of the heat-sensitive element when an electric current is passed through it. The article also describes working models of various sensors designed for in-flight temperature measurement. These sensors include models with braking (deceleration) adapters, universal temperature meters (Venturi tubes), true temperature sensors based on the phenomenon of the reduction of temperature in the center of an air vortex, and temperature sensors without special adapters. The results of laboratory and flight tests of these devices are analyzed in the article. Orig. art. has: 6 figures, 11 tables and 36 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya, Leningrad (Scientific Research Institute of Hydrometeorological Instrument Building)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: ES NO REF SOV: 018 OTHER: 004

Card 2/2

ACCESSION NR: AT4038814 S/2778/63/000/011/0096/0101

AUTHOR: Nepomnyashchiy, S. I.

TITLE: Radiosonde errors caused by the discreteness of the scale

SOURCE: Leningrad. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Trudy*, no. 11, 1963, 96-101

TOPIC TAGS: meteorology, hydrometeorology, meteorological instrument, radiosonde, radiosonde accuracy

ABSTRACT: In the measuring units of the ascension radiosonde type A-22 and the ejection sonde A-13 a discrete rather than a continuous scale is employed. The scale is in the form of a code drum. Corresponding to each track on the code drum is a definite combination of Morse signals and, consequently, a specific value of the factor being tested. When using such code drums (that is, discrete scales rather than the conventional continuous scales), scale readings are received at a certain interval caused by the multiplying factor of the track ΔN, which is expressed in units of the factor being tested. The author notes that in order to ensure a given test accuracy when using code drums, and discrete scales in general, a definite relation must be established between the track multiplying factor, the instrumental error, the error due to the method of calibration, the

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ACCESSION NR: AT4038814

reading accuracy and the overall test error (the instrumental error in this case includes "non-return of the indicator arrow", which is primarily caused by friction in the transmission gear mechanism and by the error of the sensitive element). It is noted in this connection that the error can be substantially reduced if the measurement units are calibrated not "by the position of the arrow", but "by the crossings"; that is, if the position of the arrow is noted with maximum possible accuracy when it "crosses" the boundary of two adjacent tracks - the received signals in this case correspond to the center of the track. In this article, the author has considered a method for calculating the errors of radiosondes (specifically, their pressure, temperature and humidity units) having discrete scales, and has computed the instrumental errors of the A-13 and A-22 radiosondes caused by the discreteness, the method of calibration and non-return of the arrow. Orig. art. has: 12 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya,(Leningrad Scientific Research Institute for Hydrometeorological Instrument Building)

SUBMITTED: 00 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: ES NO REF SOV: 003 OTHER: 000

Card 2/2

NEPOMNYASHCHIY, S.I.

Problems of the methodology of processing sounding data from a dropsonde. Trudy NIIGMP no.12:52-62 '64. (MIRA 18:4)

NEPOMNYASHCHIY, S.I.

One method of measuring the speed of an air stream in ventilated columns of meteorological instruments and in ventilation apparatus. Trudy NIIGMP no.14:113-115 '65. (MIRA 18:9)

ACC NR: AT7001807 SOURCE CODE: UR/2778/66/000/015/0020/0027

AUTHOR: Nepomnyashchiy, S. I.

ORG: none

TITLE: Radiosonde for sounding the lower layer of the atmosphere

SOURCE: Leningrad. Nauchno-issledovatel'skiy institut gidrometeorologicheskogo priborostroyeniya. Trudy, no. 15, 1966, 20-27

TOPIC TAGS: ~~meteorologic~~ radiosonde, atmospheric sounding, weather station, radio transmitter/A-58 radiosonde, A-43 radio transmitter, PRB-1.5 radio transmitter, ~~instrument~~, ~~weather balloon~~, ~~weather forecasting~~

ABSTRACT: A description is given for an improved radiosonde designed for making lower atmosphere (to 3000 m) soundings and results of laboratory and field tests are summarized. This A-58 radiosonde was developed at the NIIGMP under the author's direction, and consists of a hydrogen-filled balloon, a barometrically controlled device for parachuting the radiosonde package upon reaching the desired altitude, and the radiosonde itself. The A-58 radiosonde is basically similar to the A-22; it consists of pressure, temperature, and humidity sensors, an 80PMKhS power pack and a special coding unit rotated by a microelectric motor—each position of the indicator corresponding to a given closed circuit combination in the radio transmitter which relays the data on Morse code. The pressure elements are membranes of pressure boxes of the BKM-2 type made of N41KhT steel, with the temperature coefficient close to

Card 1/2 UDC: none

ACC NR: AT7001807

zero; the thermometer is a thin bimetallic spring (more sensitive than the one in A-22) protected from solar radiation by a thin removable cylindrical sleeve; the hygrometer is a goldbeater skin membrane. The radiosonde is designed to operate with the A-43, PRB-1.5 and other UKV radiotransmitters in conjunction with "Malakhit" and "Meteor" type stations. The A-58 was designed for measurements (with error limits) in the following ranges: pressure 700—1040 mb (±2 mb), temperature -40° to 40° (±0.5°), relative humidity 15—100% (±5%). Comparisons were made in Nov—Dec 1963 between pairs of A-58 radiosondes and between A-58 and A-22-IV radiosondes at heights of 500--4000 m. The A-58 gave more detailed temperature and humidity information than the A-22; the average differences in in-flight data between pairs of A-58 radiosondes were: pressure 1.7 mb, temperature 0.3°, humidity 1%; this was less than the differences between the A-58 and the A-22 data. Use of the A-58 radiosonde in the aerological network was recommended. Orig. art. has: 2 tables and 3 figures. [06]

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 5117

Card 2/2

PEPELEV, G.I., gornyy inzh.; NEPOMNYASHCHIY, S.I., gornyy inzh.

Improving the structural elements of mining systems. Gor. zhur. no.4:67-68 Ap '65. (MIRA 18:5)

1. Vysokogorskoye rudoupravleniye.

L 21829-66 EWT(m)

ACC NR: AP6005991 (A) SOURCE CODE: UR/0224/65/000/010/0043/0045

AUTHOR: Tachkova, N. A. (Engineer); Nepomnyashchiy, S. V. (Engineer)

ORG: none

TITLE: Heat conductivity of different types of light concretes

SOURCE: Byulleten' stroitel'noy tekhniki, no. 10, 1965, 43-45

TOPIC TAGS: heat conductivity, concrete

ABSTRACT: The article is a survey of the properties of the main varieties of light concretes: agloporite concrete, slag concrete (alag pumice concrete), porous clay concrete, perlite concrete, foam and gas concrete, and arbolite made of wood chips and reed cuttings. According to the specifications for light concretes, they are divided into: heat insulating (with a specific weight not more than 800 kg/m^3, types 5-25, heat conductivity not more than 0.25 kcal/meter-hour-degree); construction-heat insulating (specific weight up to 1400 kg/m^3, types 25-75, heat conductivity not more than 0.55); and, construction (up to 1800 kg/m^3, types 50-400). The article contains extended tables listing heat conductivities for the above types of light concretes. Orig. art. has: 2 tables.

SUB CODE: 11/ SUBM DATE: none

Card 1/1 nst

UDC: 666.972.53

GRUSH, D.B.; YEFREMOVA, A.M.; NEFOMNYASHCHIY, V.; TORUNTSOVA,L.

[Such people conquer; leading workers in the construction of the Nazarovo State Regional Electric Power Plant] Takie pobediat; o peredovikakh stroitel'stva Nazarovskoi GRES. Krasnoiarsk, Krasnoiarskoe knizhnoe izd-vo, 1961. 89 p. (MIRA 18:5)

SHIKIN, S.S., kand.tekhn.nauk; NEPOMNYASHCHIY, V.A., inzh.; FAL'KOVSKIY, N.I., inzh.

Operation of grounding systems in salinated soils. Energ. i elektrotekh. prom. no.2:33-36 Ap-Je '65. (MIRA 18:8)

SHIKIN, S.S., kand. tekhn. nauk; NEPOMNYASHCHIY, V.A., inzh.; FAL'KOVSKIY, N.I., inzh.

Electrical properties of saline and alkaline soils. Energ. i elektrotekh. prom. no.3:46-48 Jl-S '65. (MIRA 18:9)

L 05675-67 EWT(d) IJP(c)

ACC NR: AR6023246 SOURCE CODE: UR/0044/66/000/003/V053/V054

AUTHOR: Nepomnyashchiy, V. A.

REF SOURCE: Sb. Diskretn. analiz. Vyp. 5. Novosibirsk, 1965, 77-82

TITLE: On algorithms realized by repeated applications of finite automata

SOURCE: Ref. zh. Matematika, Abs. 3V186

TOPIC TAGS: algorithm, finite automaton

TRANSLATION: A finite automaton M has an input and output alphabet B, a state alphabet Q, a set of distinguished states $P \subseteq Q$ and an initial state $q_0 \in Q$. The following process is investigated: at input M a word α enters and is transformed by the automaton into α_1 and passes into state q_1; then M transforms the word α_1, starting with q_1, into word α_2 and passes into state q_2; etc.; the process breaks off if there exists a state $q_i \in P$; in this case it is said that automaton M is applicable to word α (designated $M(\alpha)$). By $\tilde{A}$ is meant the set of all words in alphabet A. The set $U \subseteq \tilde{A}$ is called a C-set if there exists an automaton M with input and output alphabets $B \supseteq A$, such that $\alpha \in U \leftrightarrow M(\alpha)$. It is shown that the class of C-sets coincides with a class of sets recognized on a Turing machine with limited expansion (F') in the terminology of Richi (*RZhMat*, 1963, 8A65). The necessary lemmas are established and it is proved that for a set $U \subseteq \tilde{A}$ to be a C-set it is necessary and sufficient that U be recognized in the

UDC: 519.95

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L 05675-67

ACC NR: AR6023246

appropriate Turing machine which transforms $\tilde{A}$ with limited expansion. A corollary is that the class of C-sets in the alphabet (1,2) coincides with a class of all sets from E^2, where E^2 is a class in Grzhegorchik's hierarchy (*RZhMat*, 1959, 76) of primitive-recursive functions (E^2 is the least class containing $I_1(x,y)=x$, $I_2(x,y)=y$, $x+1$, $(x+1)\cdot(y+1)$ and closed with respect to the operation of substitution and limited recursion). B. Golovitsyn.

SUB CODE: 12/ SUBM DATE: none

Card 2/2

M

COUNTRY : USSR
CATEGORY : CULTIVATED PLANTS. Fodder Grasses and Roots.

ABS. JOUR. : REF ZHUR - BIOLOGIYA, NO. 4, 1959, No. 15697

AUTHOR : Trecubenko, M.Ya.; Nepomnyashchiy, V.I.
INST :

TITLE : Productivity of Irrigated Alfalfa in the Conditions of the Central Steppe of the Ukraine SSR.

ORIG PUB. : Zemledeliye, 1958, No.1, 76-78

ABSTRACT : In the droughty steppe of the Ukraine SSR, experiments were carried out in 1954-1955 with alfalfa of 1952 sowing in plots of 150 m^2.

Observations showed that it was not profitable to raise the irrigation quota for alfalfa above 2000 m^3. With one and the same quantity of irrigation water, the crop of alfalfa hay was higher with two waterings near mowing, but this is confirmed only with a water quota not less than 1500 m^3/hectare. More

CARD: 1/2

CARD: 2/2

L 05270-67 EWT(d) IJP(c)

ACC NR: AR6023993 SOURCE CODE: UR/0372/66/000/003/G023/G023

AUTHOR: Nepomnyashchiy, V. A.

22
B

TITLE: Algorithms implemented through repeated use of finite automata

SOURCE: Ref. zh. Kibernetika, Abs. 3G161

REF SOURCE: Sb. Diskretn. analiz. Vyp. 5. Novosibirsk, 1965, 77-82

TOPIC TAGS: finite automaton, algorithm, set theory, Turing machine

ABSTRACT: A finite automaton M with the input and output alphabet B, alphabet Q of states, set $P \subseteq Q$ of distinguishable states, and initial state $q_0 \in Q$ is considered. The following process is investigated: the word α arrives at the input of M and is processed by the automaton into α_1, whereupon the automaton converts to the state q_1; after this M processes the word α_1, commencing with q_1, into the word α_2 and converts to the state q_2, and so on; the process discontinues if there exists the state $q_i \in P$; in this case it is maintained that the automaton M is applicable to the word α (notation: $M(\alpha)$). A denotes the set of all the words in the alphabet A. The set $U \subseteq A$ is termed the C-set if there exists an automaton M with the input and output alphabet $B \supseteq A$ such that $\alpha \in UM(\alpha)$. It is shown that the class of C-sets coincides with the class

Card 1/2 UDC: 681.142.1.01

L 05270-67

ACC NR: AR6023993

D

of sets recognizable by the Turing machine with limited stretching. The necessary lemmas are established and a series of theorems is proved. 4 illustrations. Bibliography of 4 titles. B. G. [Translation of abstract]

SUB CODE: 09, 06, 12

Card 2/2 egk

NEPOMNYASHCHIY, V.P., inzhener.

Repairing fire-tube boilers. Energetik 4 no.10:13-14 O '56.
(MLRA 9:11)

(Boilers--Maintenance and repair)

124-58-9-9773

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 9, p 42 (USSR)

AUTHORS: Puzoshchatov, D. F., Nepomnyashchiy, V. P.

TITLE: The Control of Centrifugal Blowers by Means of Air Feeding Into the Suction Pipe (Regulirovaniye tsentrobezhnykh nasosov podvodom vozdukha na vsasyvayushchuyu trubu)

PERIODICAL: Sb. nauchn. tr. Severo-Kavkazsk. gornometallurg. in-t, 1957, Nr 14, pp 242-250

ABSTRACT: Theoretical reasonings and the results of experimental verification are adduced relative to the control of a centrifugal blower by low-level air feeding into the suction pipe. It is established that such a method of control, firstly, is stable through an output range between 50 and 100 percent of rated output and, secondly, is 10 percent more efficient than control by means of a slide valve. Bibliography: 2 references.

1. Blowers--Control systems 2. Blowers --Performance

G. A. Varshavskiy

Card 1/1

NEPOMNYASHCHIY, V.P.

Investigating the automatic control of pump performance with air feed into the suction pipe. Izv. vys. ucheb. zav.; tsvet. met. 3 no. 6:24-33 '60. (MIRA 14:1)

1. Severokavkazskiy gornometallurgicheskiy institut. Kafedra gornoy mekhaniki.

(Mine pumps) (Automatic control)

NEPOMNYASHCHIY, V.P., inzh.

Device for installing and regulating a valve-type steam distributor in steam engines. Energetik 8 no.9:12-13 S '60. (MIRA 14:9)

(Steam engines--Equipment and supplies)

NEPOMNYASHCHIY, V. P.

Cand Tech Sci -(diss) "Automatic control of the productivity of pumps using underwater air in a suction pipe." Leningrad, 1961. 13 pp; with illustrations; (Ministry of Higher and Secondary Specialist Education RSFSR, Leningrad Order of Lenin and Order of Labor Red Banner Mining Inst imeni G. V. Plekhanov, Chair of Mining Mechanics); number of copies not given; price not given; (KL, 6-61 sup, 221)

NEPOMNYASHCHIY, V.P.

Efficiency of pumps with air feed to the suction pipe at a lower level than that of the fluid in the reciever, as system of automatic control. Izv. vys. ucheb. zav.; tsvet. met. 4 no.2:134-141 '61. (MIRA 14:6)

1. Severokavkazskiy gornometallurgicheskiy institut, kafedra gornoy mekhaniki.
(Ore dressing--Equipment and supplies)

MIROMIYASHCHIY, V.S. (Moskva)

Workers' group of the Shkiriatov factory fights for quality in production. Shvein.prom. no.2:18-20 Mr-Ap '60. (MIRA 13:11)
(Moscow--Clothing industry--Quality control)

NEPOMNYASHCHIY, V.S. (g. Moskva)

Factory wall newspaper in the struggle for the fulfillment of state plans ahead of time. Shvein.prom. no.1:29-32 Ja-F '61. (MIRA 14:3)

(Wall newspapers) (Clothing industry)

NEPOMNYASHCHIY, V.Ye.

Sizing materials based on silicic acid. Tekst. prom. 24 no.7:66-67 Jl '64. (MIRA 17:10)

1. Ispolnyayushchiy obyazannosti nachal'nika khimiko-tekhnologicheskoy laboratorii Barnaul'skogo nauchno-issledovatel'skogo instituta tekstil'noy promyshlennosti.

NEPONNIASHCHI, E.A.

Issledovanie i raschet zvuka vozdushnogo vinta. Moskva, Oborongiz, 1941. 79 p., diagrs. (TSIAM. Trudy, no. 39)

Bibliography: p. 77.

Title tr.: Research in and calculation of the sounds emitted by propellers.

TL706.N6N4

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1955.

NEPOMNYASHCHIY, Ye.

~~LATYSHEV, G. D.~~

176

PHASE I BOOK EXPLOITATION SOV/5410

Tashkentskaya konferentsiya po mirnomu ispol'zovaniyu atomnoy energii, Tashkent, 1959.

Trudy (Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy) v. 2. Tashkent, Izd-vo AN UzSSR, 1960. 449 p. Errata slip inserted. 1,500 copies printed.

Sponsoring Agency: Akademiya nauk Uzbekskoy SSR.

Responsible Ed.: S. V. Starodubtsev, Academician, Academy of Sciences Uzbek SSR. Editorial Board: A. A. Abdullayev, Candidate of Physics and Mathematics; D. M. Abduramulov, Doctor of Medical Sciences; U. A. Arifov, Academician, Academy of Sciences Uzbek SSR; A. A. Borodulina, Candidate of Biological Sciences; V. N. Ivashev; G. S. Ikramova; A. Ye. Kiv; Ye. M. Lobanov, Candidate of Physics and Mathematics; A. I. Nikolayev, Candidate of Medical Sciences; D. Nishanov, Candidate of Chemical Sciences; A. S. Sadykov, Corresponding Member, Academy of Sciences USSR, Academician, Academy of Sciences Uzbek SSR; Yu. N. Talanin,

Card 1/20

Transactions of the Tashkent (Cont.) SOV/5410

Candidate of Physics and Mathematics; Ya. Kh. Turakulov, Doctor of Biological Sciences. Ed.: R. I. Khamidov; Tech. Ed.: A. G. Babakhanova.

PURPOSE : The publication is intended for scientific workers and specialists employed in enterprises where radioactive isotopes and nuclear radiation are used for research in chemical, geological, and technological fields.

COVERAGE: This collection of 133 articles represents the second volume of the Transactions of the Tashkent Conference on the Peaceful Uses of Atomic Energy. The individual articles deal with a wide range of problems in the field of nuclear radiation, including: production and chemical analysis of radioactive isotopes; investigation of the kinetics of chemical reactions by means of isotopes; application of spectral analysis for the manufacturing of radioactive preparations; radioactive methods for determining the content of elements in the rocks; and an analysis of methods for obtaining pure substances. Certain

Card 2/20

Transactions of the Tashkent (Cont.) SOV/5410

instruments used, such as automatic regulators, flowmeters, level gauges, and high-sensitivity gamma-relays, are described. No personalities are mentioned. References follow individual articles.

TABLE OF CONTENTS:

RADIOACTIVE ISOTOPES AND NUCLEAR RADIATION IN ENGINEERING AND GEOLOGY

Lobanov, Ye. M. [Institut yadernoy fiziki UzSSR - Institute of Nuclear Physics AS UzSSR]. Application of Radioactive Isotopes and Nuclear Radiation in Uzbekistan 7

Taknar, I. N., and V. A. Yanushkovskiy [Institut fiziki AN Latv SSR - Institute of Physics AS Latvian SSR]. Problems of the Typification of Automatic-Control Apparatus Based on the Use of Radioactive Isotopes 9

Card 3/20

Transactions of the Tashkent (Cont.) SOV/5410

Borukhov, M. Yu., and A. T. Lebedev [Institute of Nuclear Physics AS UzSSR]. A Unified Radioactive Isodromic Regulator (URIR) 29

Borukhov, M. Yu., and B. K. Mal'tsev [Institute of Nuclear Physics AS UzSSR]. Experimental Application of High-Sensitivity Gamma-Relay 32

Betin, Yu. P., B. I. Verkhovskiy, N. G. Zelevinskaya, and V. V. Yakushin [Fizicheskiy institut Akademii nauk USSR - Physics Institute AS USSR]. Methods for Increasing the Accuracy of Measurements of Radioactive Radiation Flux 36

Snisarenko, A., Z. Tarasova, Ye. Nepomnyashchiy, and V. Novopol'skiy [Nauchno-issledovatel'skiy institut shinnoy promyshlennosti-Scientific Research Institute of ... the Tire Industry]. Determination of the Wear of Car Tires by Means of Isotopes Tl^{204} 43

Arkhangel'skiy, A. A., and G. D. Latyshev [Institute of Nuclear

NEPOMNYASHCHIY, Ye.A., prof.

Theory of the screening process. Otog. rud 5 no.5:27-33 '60.
(MIRA 14:8)

1. Leningradskiy Elektrotekhnicheskiy institut im. Ul'yanova (Lenina).
(Screens (Mining))

NEPOMNYASHCHIY, Ye.A., prof.

Thirteenth Academic Conference of Engineering Students. Izv. LETI no.45:335 '61. (MIRA 16:5)

1. Nauchnyy rukovoditel' Studencheskogo nauchnogo obshchestva Leningradskogo elektrotekhnicheskogo instituta im. V.I.Ul'yanova (Lenina).

(Electric engineering--Congresses)

NEPOMNYASHCHIY, Ye.A.

Kinetics of the separation process. Izv.vys.ucheb.zav.; pishch.tekh. no.3:150-154 '62. (MIRA 15:7)

1. Leningradskiy elektrotekhnicheskiy institut imeni V.I.Ul'yanova (Lenina), kafedra teoreticheskoy mekhaniki.
(Separators (Machines)—Dynamics)

NEPOMNYASHCHIY, Ye.A., prof.

Results of a theoretical analysis of the screening process. Obog. rud 7 no.5:29-35 '62. (MIRA 16:4)
(Ore dressing) (Screens (Mining))

NEPOMNYASHCHIY, Ye.A., doktor fiziko-matem. nauk, prof.

Use of stochastic methods in the determination of laws governing a granulation process. Izv. LETI no.47:335-341 '62. (MIRA 16:12)

NEPOMNYASHCHIY, Ye. A., doktor fiziko-matematicheskikh nauk, prof.

Contribution to the theory of self-sorting of loose mixtures.
Izv. LETI 59 no.46:217-227 '62. (MIRA 15:10)

(Separators(Machines))

NEPOMNYASHCHIY, Ye.A., doktor fiziko-matematicheskikh nauk, prof.

Determination of the characteristics of a separation process of free-flowing mixtures taking into account the gravitational flow of the particles. Izv. LETI no.48:317-325 '63.
(MIRA 17:12)

NEPOMNYASHCHIY, Ye.A., doktor fiz.-mat. nauk, prof.; KREMEN', Z.I., inzh.

Analysis of the process of charging with abrasives finishing laps based on the theory of random processes. Vest.mashinostr. 45 no.9:53-56 S '65. (MIRA 18:10)

GRINVUD, Dzh.A. [Greenwood, J.A.]; MINSHELL, G. [Minshall, H.]; TEYBOR, D. [Tabor, D.]; NEPOMNYASHCHIY, Ye.F. [translator]

Hysteresis losses in sliding friction and in rolling friction. Kauch.i rez. 21 no.1:58-63 Ja '62. (MIRA 15:1)
(Rubber—Testing)

KRAGEL'SKIY, I.V.; NEPOMNYASHCHIY, Ye.F. (Moskva)

Fatigue mechanism of the wear in case of an elastic contact. Izv.AN SSSR.Mekh. i mashinostr. no.5:190-195 S-O '63. (MIRA 16:12)

L 4283-66 EWT(d)/EWT(m)/EPF(c)/EWP(v)/EWP(j)/EWP(k)/EWP(h)/T/EWP(l) RM/DJ
ACCESSION NR: AP5024107 UR/0138/65/000/009/0030/0034
678.063:539.431

AUTHOR: Kragel'skiy, I. V.; Reznikovskiy, M. M.; Brodskiy, G. I.; Nepomnyashchiy, Ye. F.

TITLE: Friction-contact fatigue of highly elastic materials

SOURCE: Kauchuk i rezina, no. 9, 1965, 30-34

TOPIC TAGS: rubber, fatigue test, mechanical fatigue, friction, test instrumentation

ABSTRACT: An experimental study of the contact fatigue of rubbers was carried out at the IMASh with a "Tsiklometr" instrument and at the NIIShP with a "PUPS" instrument. Both of these instruments and their operation are described. To establish the behavior of the friction-contact fatigue of rubbers, use was made of the elementary model of friction, consisting of a spherical indenter which simulates a projection of a rough surface and repeatedly deforms the rubber surface. Curves of contact fatigue were obtained for

fatigue resistance coefficients were similar. A comparison of the curves of the volume

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L 4283-66 4

ACCESSION NR: AP5024107

and friction-contact fatigue leads to the conclusion that in friction-contact fatigue, the breaking stress is the tensile stress of the surface layer due to the frictional force. The data obtained confirm the relationship between the wear resistance of rubber and its fatigue resistance. Orig. art. has: 6 figures and 2 formulas.

ASSOCIATION: Nauchno-issledovatel'skiy institut shinnoy promyshlennosti (Scientific Research Institute of the Tire Industry); Gosudarstvennyy nauchno-issledovatel'skiy [illegible] Research Institute of Machine Science) 44

institut mashinovedeniya

SUBMITTED: 00 ENCL: 00 SUB CODE: MT

NO REF SOV: 009 OTHER: 002

Card 2/2 DP

NEPOMNYASHCHIY, E. M.

Bykov, R. S. (deceased); N. D. Khabarov; L. D. Ogurchikov; E. M. Nepomnyashchiy; and T. N. Golokhmatova. Methods of Extrusion of Large-sized Aluminum Alloy Structural Members. p.80

Pressure Treatment of Alloys; Collection of Articles, Moscow, Oborongiz, 1958, 14lpp.

L 44704-66 EWT(1)/EWT(m) EWP(t)/ETI IJP(c) WW/JD/GG

ACC NR: AP6031333 SOURCE CODE: UR/0386/66/004/003/0086/0090

AUTHOR: Kirzhnits, D. A.; Nepomnyashchiy, Yu. A.

ORG: Physics Institute im. P. N. Lebedev, Academy of Sciences SSSR (Fizicheskiy institut Akademii nauk SSSR)

TITLE: Instability of Fermi systems and specific heat of liquid He^3

SOURCE: Zh. eksper. i teoret. fiz. Pis'ma v redaktsiyu. Prilozheniye v. 4, no. 3, 1966, 86-90

TOPIC TAGS: liquid helium, critical point, superfluidity, second order phase transition

ABSTRACT: The authors attempt to explain the disparity between low-temperature data on the specific heat of He^3 and the predictions of the Fermi-liquid theory by assuming that at some still-unattained temperature T_c the system experiences a second-order phase transition, as a result of which the specific heat has a peak of width ΔT near T_c. The anomaly of the specific heat of He^3 is explained on the basis of the fact that the long-range attraction forces are capable also of leading to a phase transition of an essentially different nature, with a value of $\Delta T/T_c$ which is assuredly larger. This calls for a rearrangement of the system not in the "particle-particle" channel, as in the case of superfluidity, but in the "particle-hole" channel; the system goes in this case into a unique spatially-inhomogeneous state. Thus the anomaly under discussion is, so to speak, a certain "precursor" of such a transition. The

Card 1/2

L 44704-66

ACC NR: AP6031333

main premise of the authors' derivations is the instability (against small density variations) of the translation-invariant Green's function, which corresponds in this case not to the minimum energy, but to a stationary point. Since $\Delta T/T_c$ is not small if the proposed explanation is correct, it is necessary to go beyond the framework of the zeroth approximation and to take into account polarization diagrams describing the density fluctuations. Such a calculation is now under way and a detailed exposition of the problems touched upon will be published elsewhere. The authors thank V. L. Ginzburg and the participants of the seminar under his direction for numerous useful discussions. Orig. art. has: 1 figure and 4 formulas.

SUB CODE: 20/ SUBM DATE: 23May66/ ORIG REF: 006/ OTH REF: 006

hs

Card 2/2

VERCHENKO, N.T.; NEPOMNYASHCHIY, Yu.I.

Repairing the grate of a sinter-grate kiln in large units. TSement 27 no.4:28-29 Jl-Ag '61. (MIRA 14:8)

1. TSementnyy zavod "Pervomayskiy".
(Cement kilns--Maintenance and repair)

NEPOMUCKY, J.

Mechanization, mechanizers, and their help in the development of collective farms.

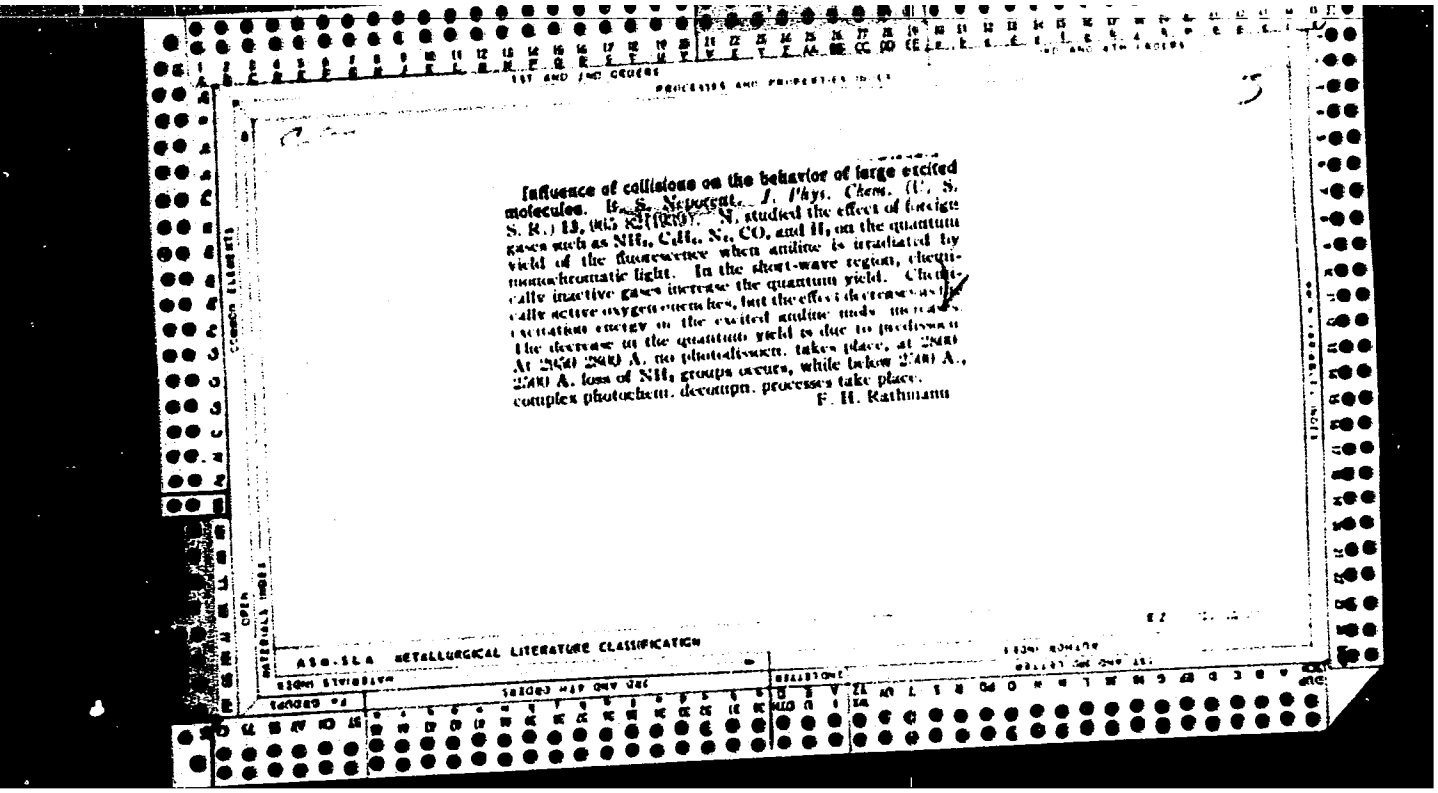
p. 25 (Zemedelske Stroje) Vol 2, no. 2, Feb. 1957 Praha, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, -Vol. 7, No. 1, Jan 1958

NEMORADNYY, D.D.

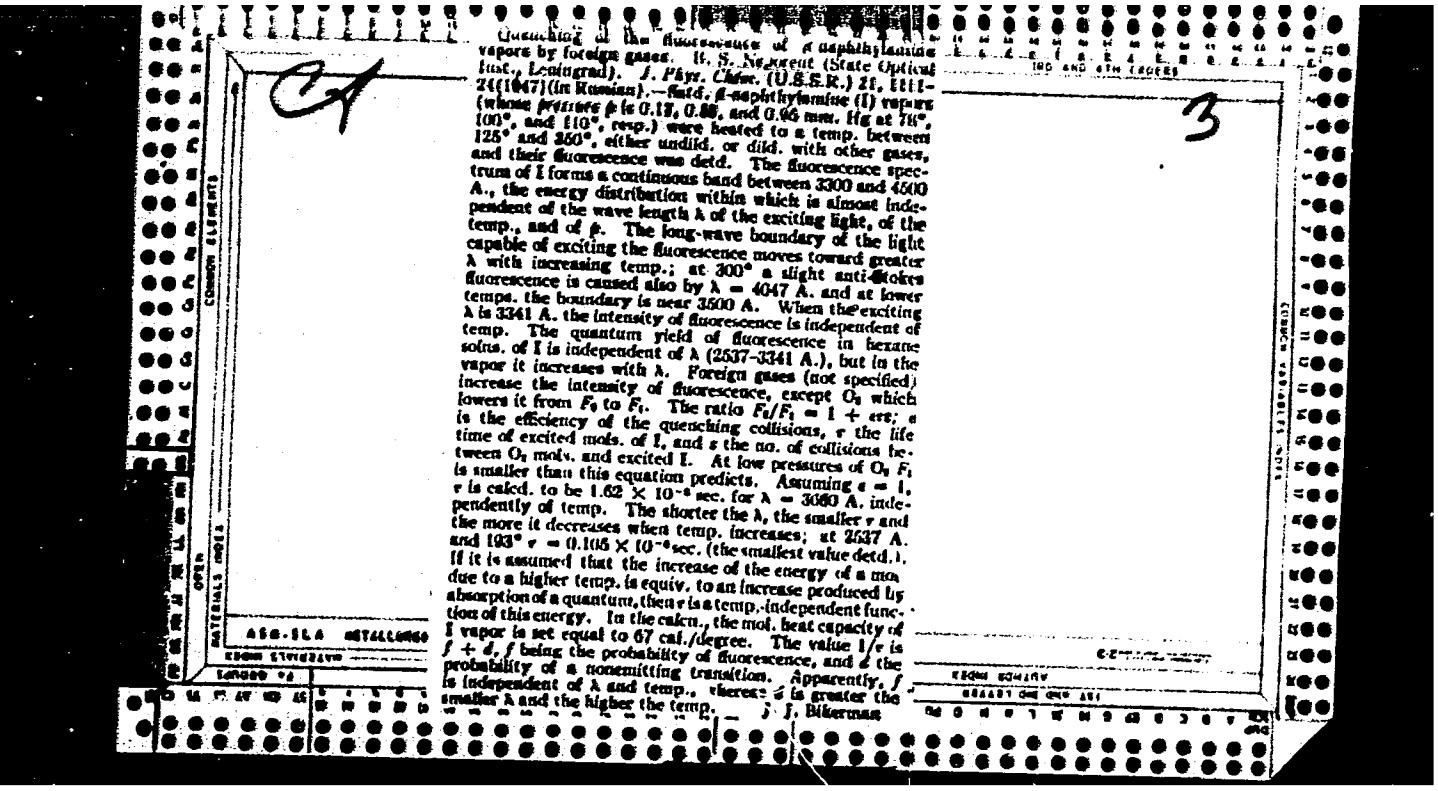
Zinc content of various organs and blood of rabbits bearing malignant tumors. Ukr. biokhim. zhur. 36 no.2:276-282 '64. (MIRA 17:11)

1. Department of Biochemistry of Ivano-Frankovsk Medical Institute.

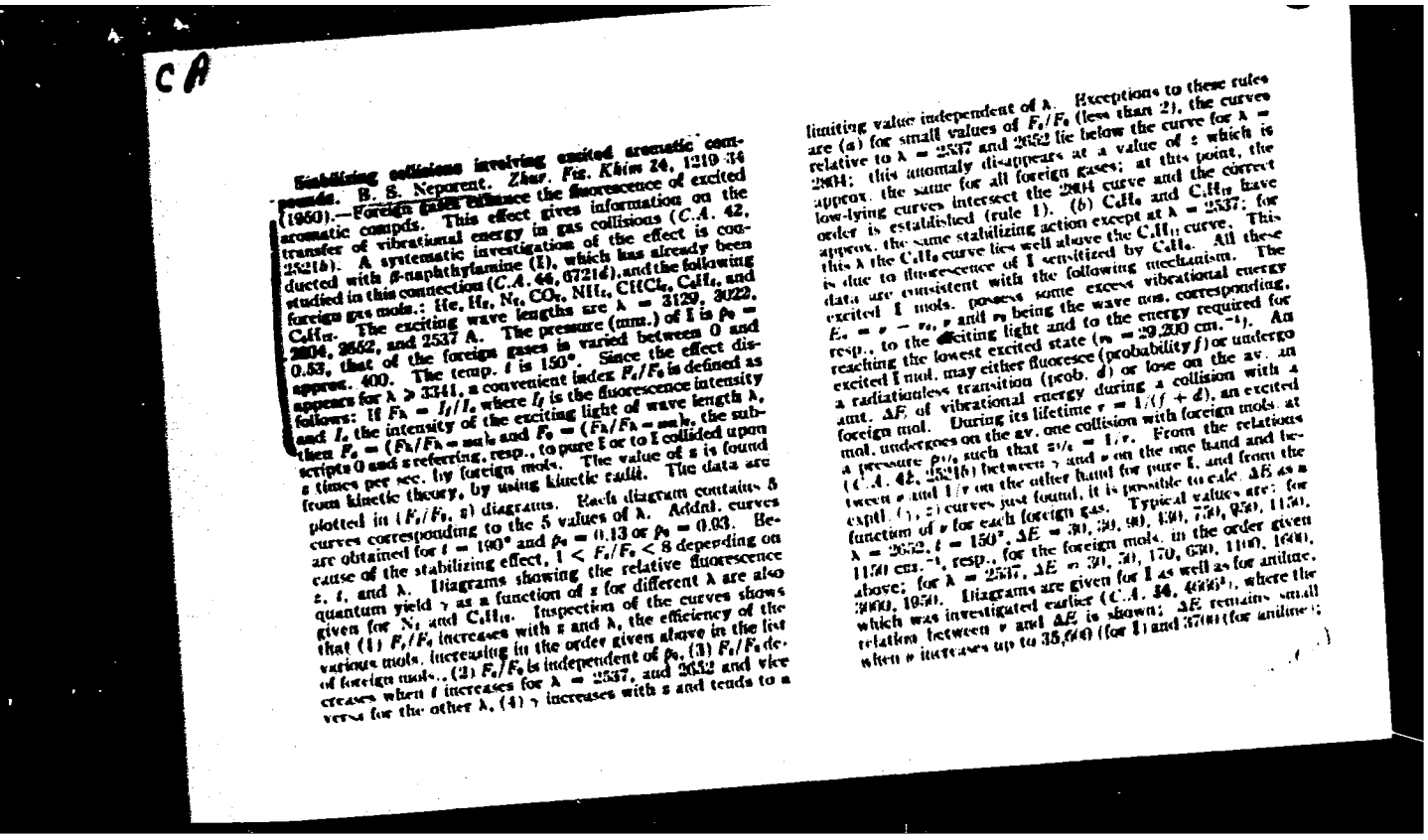


Influence of collisions on the behavior of large excited molecules. [illegible] S. Nevogrodskaya. *J. Phys. Chem.* (U. S. S. R.) **13**, [illegible] (1939). N. studied the effect of foreign gases such as NH_3, CH_4, N_2, CO, and H_2 on the quantum yield of the fluorescence when aniline is irradiated by monochromatic light. In the short-wave region, chemically inactive gases increase the quantum yield. Chemically active oxygen quenches, but the effect decreases as the excitation energy in the excited aniline mols. increases. The decrease in the quantum yield is due to predissociation. At 2650–2540 A. no photodissocn. takes place, at 2540–2440 A. loss of NH_2 groups occurs, while below 2440 A., complex photochem. decompn. processes take place.

F. H. Rathmann



Quenching of the fluorescence of α naphthylamine vapors by foreign gases. B. S. Neporent (State Optical Inst., Leningrad). *J. Phys. Chem. (U.S.S.R.)* 21, 1111–24(1947)(In Russian).—Fluid, α-naphthylamine (I) vapors (whose pressure p is 0.17, 0.85, and 0.96 mm. Hg at 78°, 100°, and 110°, resp.) were heated to a temp. between 125° and 350°, either undild. or dild. with other gases, and their fluorescence was detd. The fluorescence spectrum of I forms a continuous band between 3300 and 4500 A., the energy distribution within which is almost independent of the wave length λ of the exciting light, of the temp., and of p. The long-wave boundary of the light capable of exciting the fluorescence moves toward greater λ with increasing temp.; at 300° a slight anti-Stokes fluorescence is caused also by λ = 4047 A. and at lower temps. the boundary is near 3500 A. When the exciting λ is 3341 A. the intensity of fluorescence is independent of temp. The quantum yield of fluorescence in hexane solns. of I is independent of λ (2537–3341 A.), but in the vapor it increases with λ. Foreign gases (not specified) increase the intensity of fluorescence, except O_2 which lowers it from F_0 to F_1. The ratio $F_0/F_1 = 1 + \epsilon r s$; ϵ is the efficiency of the quenching collisions, r the life time of excited mols. of I, and s the no. of collisions between O_2 mols. and excited I. At low pressures of O_2 F_1 is smaller than this equation predicts. Assuming $\epsilon = 1$, r is calcd. to be 1.62×10^{-8} sec. for λ = 3080 A. independently of temp. The shorter the λ, the smaller r and the more it decreases when temp. increases; at 2537 A. and 193° $r = 0.105 \times 10^{-8}$ sec. (the smallest value detd.). If it is assumed that the increase of the energy of a mol. due to a higher temp. is equiv. to an increase produced by absorption of a quantum, then r is a temp.-independent function of this energy. In the calcn., the mol. heat capacity of I vapor is set equal to 67 cal./degree. The value $1/r$ is $f + d$, f being the probability of fluorescence, and d the probability of a nonemitting transition. Apparently, f is independent of λ and temp., whereas d is greater the smaller λ and the higher the temp. — J. J. Bikerman



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Stabilizing collisions involving excited aromatic compounds. B. S. Neporent. *Zhur. Fiz. Khim* 24, 1219-34 (1950).—Foreign gases influence the fluorescence of excited aromatic compds. This effect gives information on the transfer of vibrational energy in gas collisions (*C.A.* 42, 2321*b*). A systematic investigation of the effect is conducted with β-naphthylamine (I), which has already been studied in this connection (*C.A.* 44, 6721*d*), and the following foreign gas mols.: He, H_2, N_2, CO_2, NH_3, $CHCl_3$, CdH_6, and C_6H_{12}. The exciting wave lengths are λ = 3129, 3022, 2804, 2652, and 2537 A. The pressure (mm.) of I is p_0 = 0.53, that of the foreign gases is varied between 0 and approx. 400. The temp. t is 150°. Since the effect disappears for λ > 3341, a convenient index F_λ/F_0 is defined as follows: If $F_\lambda = I_f/I_e$ where I_f is the fluorescence intensity and I_e the intensity of the exciting light of wave length λ, then $F_0 = (F_\lambda/F_\lambda - s_0 k_0$ and $F_0 = (F_\lambda/F_\lambda - s_0 k_0$, the subscripts 0 and s referring, resp., to pure I or to I collided upon s times per sec. by foreign mols. The value of s is found from kinetic theory, by using kinetic radii. The data are plotted in (F_λ/F_0, s) diagrams. Each diagram contains 5 curves corresponding to the 5 values of λ. Addnl. curves are obtained for t = 190° and p_0 = 0.13 or p_0 = 0.03. Because of the stabilizing effect, $1 < F_\lambda/F_0 < 8$ depending on s, t, and λ. Diagrams showing the relative fluorescence quantum yield γ as a function of s for different λ are also given for N_2 and C_6H_{12}. Inspection of the curves shows that (1) F_λ/F_0 increases with s and λ, the efficiency of the various mols. increasing in the order given above in the list of foreign mols., (2) F_λ/F_0 is independent of p_0, (3) F_λ/F_0 decreases when t increases for λ = 2537, and 2652 and vice versa for the other λ, (4) γ increases with s and tends to a limiting value independent of λ. Exceptions to these rules are (a) for small values of F_λ/F_0 (less than 2), the curves relative to λ = 2537 and 2652 lie below the curve for λ = 2804; this anomaly disappears at a value of s which is approx. the same for all foreign gases; at this point, the low-lying curves intersect the 2804 curve and the correct order is established (rule 1). (b) CdH_6 and C_6H_{12} have approx. the same stabilizing action except at λ = 2537; for this λ the CdH_6 curve lies well above the C_6H_{12} curve. This is due to fluorescence of I sensitized by CdH_6. All these data are consistent with the following mechanism. The excited I mols. possess some excess vibrational energy $E_e = \nu - \nu_0$, ν and ν_0 being the wave nos. corresponding, resp., to the exciting light and to the energy required for reaching the lowest excited state (ν_0 = 29,200 cm.$^{-1}$). An excited I mol. may either fluoresce (probability f) or undergo a radiationless transition (prob. d) or lose on the av. an amt. ΔE of vibrational energy during a collision with a foreign mol. During its lifetime $\tau = 1/(f + d)$, an excited mol. undergoes on the av. one collision with foreign mols. at a pressure $p_{1/2}$ such that $z_{1/2} = 1/\tau$. From the relations (*C.A.* 42, 2321*b*) between γ and ν on the one hand and between ν and $1/\tau$ on the other hand for pure I, and from the capil. (γ, s) curves just found, it is possible to calc. ΔE as a function of ν for each foreign gas. Typical values are: for λ = 2652, t = 150°, ΔE = 30, 50, 90, 130, 750, 950, 1150, 1150 cm.$^{-1}$, resp., for the foreign mols. in the order given above; for λ = 2537, ΔE = 30, 50, 170, 650, 1100, 1600, 2000, 1950. Diagrams are given for I as well as for aniline, which was investigated earlier (*C.A.* 34, 4666[3]), where the relation between ν and ΔE is shown; ΔE remains small when ν increases up to 35,000 (for I) and 37,000 (for aniline);

at these values of ν, ΔE starts increasing steeply and linearly with ν, for all gases. Since the excited mol. is complex (i.e. E_v is redistributed statistically among all vibrational degrees of freedom during the period of mol. vibrations), the transfer of energy (stabilization) can be described classically by an accommodation coeff. α defined by $\Delta E = \alpha(C_v' - C_v'')$, where C_v' and C_v'' are the sp. heats of I and of the foreign mol., resp. This definition agrees with the linear relationship between ΔE and E_v = [illegible]. The values of α found from the slope of the straight lines in the (ΔE, ν) diagram are, in order: 0.2, 0.2, 0.4, 1.4, 3.0, 2.5, 2.3, 1.7. Values of α larger than unity mean that the collision diams. are larger than the kinetic ones. For ν less than 45,000, E_v is not large enough to insure statistical redistribution and α has no meaning. Since the redistribution probability increases with E_v, the levels are broadened and the fluorescence spectrum is continuous although the absorption spectrum is discrete. This is true for mols. of medium complexity (I, aniline, anthracene). For mols. of greater complexity (dyes), the redistribution probability becomes large even for small E_v. Michel Boudart

NEPORENT, B. S.

"The Hydrogen Bond in the Propionic Acid Peroxide and Its Kinetic Effect," Dokl. AN SSSR, 70, No.6, 1950

Inst. Chem. Physics, AS USSR

NEPORENT, B. S. PA 165T94

USSR/Physics - Fluorescence 1 May 50

"Influence of External Conditions Upon Absorption and Fluorescence in Vapors of Aromatic Compounds," B. S. Neporent

"Dok Ak Nauk SSSR" Vol LXXII, No 1, pp 35-38

Discusses influence of foreign gases (NH_3, C_5H_{12}, CO_2, N_2, H_2, He) upon intensity F of fluorescence for various pressures (0.13-0.53 mm) on vapors of beta-naphthylamine. Some gases decrease, and others increase fluorescence F (e.g., C_5H_{12} and CO_2, amount depending on pressure). Submitted 20 Feb 50 by Acad A. N. Terenin.

[redacted] 165T94

NEPORENT, B. S.

Neporent, B. S. Stabilization of excited molecules of aromatic compounds upon collision. Page 1219.

SO: Journal of Physical Chemistry, Vol. 74, No. 10. October 1950.

1. NEPORENT, B. S.

2. USSR (600)

4. Luminescence

7. Luminescence of vapors of complex aromatic compounds. Izv AN SSSR Ser fiz. No. 5 1951

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

USSR/Physics - Fluorescence, Spectra, Feb 52
Molecular

"Problem of Correlation of Absorption and Emission and Origin of Wide Band Spectra of Compound Molecules," B. S. Neporent

"Zhur Eksper i Teoret Fiz" Vol XXII, No 2, pp 172-188

Exmd fluorescence and absorption spectra of 2 diaminophthalimides in soln and gaseous state. Neporent finds spectral width of each substance depends exclusively on some mean transient frequency and is proportional to square of this frequency. Previous

180T100

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USSR/Physics - Fluorescence, Spectra, Feb 52
Molecular (Contd)

division of multiatomic mol is subdivided by seps compd mol into 2 groups according to interaction of electron states and self-oscillations.

180T100

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NEPORENT, B.S.

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Vibration energy and luminescence of complex molecules. I. B. S. Neporent. *Uspekhi Fiz. Nauk* 43, 389-402 (1951).—The distribution of energy in and the spectra of a complex org. mol., the dependence of the efficiency and the duration of fluorescence on the vibration energy, and other features of the org. mol. are reviewed. Most of the work was done on solns. because fluorescence expts. in gases are difficult to make at const. pressure; however the investigation of the fluorescence of vapors, whenever they do not decomp. on evapn., gives the possibility of studying many aspects impossible to obtain in soln. Complex mols. are mols. in which the probability of energy redistribution is greater than the reciprocal of the lifetime of the excited state. The spectra are line spectra in simple mols., diffused in semi-complex, and continuous in complex mols. Emission and absorption spectra have mirror symmetry. The quantum output is larger in soln. than in vapors. The lifetime of the excited state and the quenching by other gases are described as well as the increase in fluorescence by foreign gases and the stabilization of fluorescence by collisions by transfer of the vibration energy, characterized by an "accommodation coeff." (cf. *C.A.* 45, 5518*h*). II. B. I. Stepanov. *Ibid.* 402-25.—A theory of localization of the vibration energy on certain degrees of freedom is developed. Owing to a continuous change in localization and a redistribution of vibration energy of the mol. on different degrees of freedom, continuous spectra are formed. Thus classical statistics can be applied to such mols. which can have their own specific temp. From such considerations the lifetime and the distribution function of excited states are derived, and the decay time of fluorescence can be calcd. both for vapors and for solns. The quantum output and the temp. quenching of fluorescence are also derived from the distribution function (cf. *C.A.* 46, 8970*h*). 31 references.

S. Pakuro...

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NEPORENT, B. S.

(3) 4

Investigation of the spectra of substituted phthalimides in vapor and in solution. B. S. Neporent, V. V. Zelinskii, and V. P. Klochkov. *Doklady Akad. Nauk S.S.S.R.* 92, 927–30(1953)(Engl. translation issued as *U.S. Atomic Energy Comm.* NSF-tr-216, 5 pp.(1954)).—The fluorescence and absorption spectra of a series of mono- and disubstituted phthalimides were compared both in the vapor state and in soln. and at different temps. The relation between the fluorescence and absorption spectra, as well as the spectral widths, remained unchanged on transition from the gaseous state to the dissolved state; the soln. spectrum positions were displaced toward longer wave lengths. As the intramol. interaction increased, on going through the series investigated, the influence of solvent on the mol. decreased, with corresponding decrease in the displacement of the soln. spectrum with respect to the vapor spectrum. A. J. Mabis

NEPOKENT, B.S.; ZELINSKIY, V.V.; KLOCHKOV, V.P.

Comparative investigation of spectra of complicated organic compounds in vapors and solutions. Izv. AN SSSR Ser.fiz.18 no.2:297 Mr-Ap '54. (MLRA 7:11)
(Phthalimide--Spectra)

USSR/Physics - Spectral analysis

Card 1/1 Pub. 43 - 16/62

Authors : Neporent, B. S.; Borisevich, N. A.; Klochkov, V. P. and Motovilov, O. A.

Title : Effect of surrounding medium and supply of oscillation energy of molecules on continuous spectra of organ. compounds

USSR/Physics - Spectral analysis

Card 1/1 : Pub. 22 - 7/41

Authors : Neporent, B. S., and Inyushin, A. I.

Title : Phosphorescence and fluorescence spectra of phthalimide and its derivatives in frozen solutions

Periodical : Dok. AN SSSR 98/2, 197-200, Sep 11, 1954

Abstract : Experimental studies of fluorescence and phosphorescence spectra of phthalimide and its derivatives in vaporous and liquid states at various temperatures are described. Five references (1951-1953). Graphs.

Institution : ...

Presented by : Acad. A. N. Terenin, April 19, 1954

NEPRORENT, B. S., Prof.
STEPANOV, B. I., Mem. of the Belorussian Acad. of Sci.

"Luminescence Spectra of Complex Molecules" paper presented at the Conference on Molecular Luminescence and Luminescent Analysis, MINSK from 20 to 25 June 1955.

REPORENT, B.S.; KLOCHKOV, V.P.; MOTOVILOV, O.A.

Variation in fluorescence spectra of phthalimide derivatives during transition through the critical state from vapors to solutions. Zhur.fiz.khim. 29 no.2:305-313 F '55. (MLRA 8:7)
(Phthalimide--Spectra) (Phase rule and equilibrium)
(Fluorescence)