LIVSHITS, M.A.; PIKEL'NER, S.B.

Diamagnetic ejection of gas concentrations from sunspot areas. Astron. zhur. 41 no.3:464-472 My-Je '64. (MIRA 17:6)

1. Institut zemnogo magnetizma, ionosfery i rasprodeleniya radiovoln AN SSSR i Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.

L 25049-65 EWT(1)/EWG(v)/EEC-4/EEC(t) Pe-5/Pq-4 GW/MLK

ACCESSION NR: AT5002743 S/0000/64/000/000/0134/0144

AUTHOR: Pikel'ner, S. B.

TITLE: The evolution and dynamics of the Sun

SOURCE: Zemlya vo Vselennoy (The Earth in the universe). Moscow, Izd-vo Mysl', 1964, 134-144

TOPIC TAGS: photosphere, hydrostatic equilibrium, thermal equilibrium, thermodynamic equilibrium, hydrogen, helium, stellar rotation, chromosphere, sun spot, flocculus, convective zone, deuterium, positron

ABSTRACT: The solar surface, or photosphere, is an incandescent opaque gas layer with a temperature of 5,800K and a density of about 10^{-7} g/cm3. About one half of the hydrogen inside the sun has been converted to helium in the past 3½ billion years. The sun has become 60% brighter in the past 5 billion years, and its energy reaching the Earth has increased by about 10%. The chromosphere is about 10,000 kilometers thick. Above it is the rarefied solar corona which has a weak glow and is very hot. The claim that the corona is transparent is not quite correct. In some areas of the spectrum the corona looks like a black body with a temperature of over one million degrees. The phenomena occurring on the solar

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L 25049-65

ACCESSION NR: AT5002743

surface include sun spots with a temperature about 1,000K lower than the surrounding surface, solar flares which are apparently produced by the magnetic forces contracting the gas under certain field configurations, and prominences which are relatively dense gas clouds rising to a great height in the corona. The nuclear reactions occurring near the center of the sun are the source of its energy. The magnetic forces account for the flares and protuberances. The cosmic rays radiating from the flares reach the Earth and may be responsible to some extent for the formation of radiation belts around it. Orig. art. has: 6 figures.

ASSOCIATION: None

SUBMITTED: 30Jan64 ENCL: 00 SUB CODE: AA

NO REF SOV: 000 OTHER: 000

Card 2/2

L 18301-65 EWT(1)/EWG(v)/EEC-4/EEC(t) Pe-5/Pq-4 AFWL/ASD(a)-5/RAEM(c)/
ESD(t) GW
ACCESSION NR: AP5001230 S/0033/64/041/006/1007/1020

AUTHOR: Pikel'ner, S. B.; Livshits, M. A.

TITLE: On the theory of heating the active and undisturbed chromosphere

SOURCE: Astronomicheskiy zhurnal, v. 41, no. 6, 1964, 1007-1020

TOPIC TAGS: sonic wave, magnetic field, photosphere, chromosphere, corona, dissipation, refraction, Alfven velocity, sonic velocity, chromospheric active region

ABSTRACT: Convective motions beneath the photosphere generate sonic waves when no magnetic field exists in the photosphere and magnetosonic waves when a magnetic field is present. These ascending waves heat the chromosphere and corona. The state of the waves is changed by dissipation and refraction. Refraction impedes the heating of layers where the Alfven velocity is much greater than the sonic velocity. This state depends upon changes in the Alfven velocity, the density, and the state of the magnetic field. The temperature and velocity distribution at various heights is computed and given in a table

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L 18301-65
ACCESSION NR: AP5001230

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which shows that refraction plays a role only from a height of 5000 km. The active regions of the cnromosphere and the corona are brighter, with fluctuations in their brightness depending on the field intensity of the active regions in the photosphere. The Alfven velocity is small in lower chromospheric layers and increases with height, approaching sonic velocity. Then the waves interact and exchange their energies, forming a complicated wave front structure. These wave associations propagate along the magnetic lines of force, forming condensations and rarefactions. Orig. art. has: 14 formulas and 4 tables.

ASSOCIATION: Gos. astronomicheskiy institut im. P. K. Shternberga (State Astronomical Institute); Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, Ionosphere, and Propagation of Radio Waves, AN SSSR)

SUBMITTED: 08Apr64 ENCL: 00 SUB CODE: AA

NO REF SOV: 012 OTHER: 013 ATD PRESS: 3156

Card 2/2

PIKEL'NER, S.B.

Barred spirals and the formation of spiral arms. Astron. zhur. 42 no.1:13-18 Ja-F '65. (MIRA 18:2)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga.

PIKEL'NER, S.B.

The galactic magnetic field (theses of a report). Trudy Astrofiz. inst. AN Kazakh. SSR 5:302 '65. (MIRA 18:6)

PIKEL'NER, S.B.

Spiral arms and interacting galaxies. Astron. zhur. 42 no.3:
515-526 My-Je '65. (MIRA 18:5)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.

IKEL'NER, S.B., prof.

Spiral arms of galaxies and their magnetic field.
Zem. i vsel. 1 no.4:24-32 Jl-Ag '65.
(MIRA 18:12)

ZEL'DOVICH, Ya.B.; OKUN', L.B., PERL'MUTER, D.M.

Quartets: astrophysical and physicochemical aspects. Usp. fiz. nauk 87 no.1:113-124 S '65. (MIRA 18:9)

KAPLAN, S.A.; PIKEL'NER, S.B.

The interstellar and interplanetary media. Izv. AN SSSR. Ser. fiz. 29 no.10:1811-1817 O '65. (MIRA 18:10)

L 22700-66 EWT(m)/T

ACC NR: AP6016664 SOURCE CODE: UR/0053/65/087/001/0113/0124

AUTHOR: Zel'dovich, Ya. B.; Okun', L. B.; Pikel'ner, S. B.

ORG: none

TITLE: Quarks: Astrophysical and physical-chemical aspects

SOURCE: Uspekhi fizicheskikh nauk, v. 87, no. 1, 1965, 113-124

TOPIC TAGS: nucleon, cosmic ray, meson, baryon, mass spectroscopy

ABSTRACT: Various approaches to the search for new stable particles are reviewed: namely, three assumed quarks, having charges 2/3e, -1/3e, and -1/3e[1.2], as well as others having integral charges. The lightest fractional-charge quark is supposed to be stable in vacuum as well as in contact with ordinary matter (nuclei, electrons). Conditions are given under which integral-charge particles can be stable. Various possible sources of quarks are reviewed, the most powerful being cosmic rays from superstars or quasistars. The annihilation of quarks is then discussed in detail. Since quarks are heavier than nucleons, the process $q_1 + q_1 \rightarrow q_3 + q_{-1}$ is possible, followed by $q_1 + q_{-1} \rightarrow nq_0$ (where the subscript indicates the number of quarks and the minus sign indicates an antiparticle;) q_3 is thus an ordinary baryon of three quarks, and q_0 is a meson. Quarks are therefore annihilated via

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UDC: 539.12

L 25700-66

ACC NR: AP5016664

a series of pair collisions. Other likely ways are also traced. Possibilities of detecting quarks are reviewed, including physical-chemical and mass spectroscopic methods. Orig. art. has: 14 formulas. [JPRS]

SUB CODE: 20 / SUBM DATE: none / ORIG REF: 017 / OTH REF: 031

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L 44[illegible]

ACC NR: AP6016849 SOURCE CODE: UR/0026/66/000/005/0111/0112

AUTHOR: Pikel'ner, S. B. (Moscow)

ORG: none

TITLE: Magnetic fields and solar atmosphere. Dynamics of the solar atmosphere

SOURCE: Priroda, no. 5, 1966, 111-112

TOPIC TAGS: sun, solar atmosphere, solar activity, solar flare, solar granule, solar magnetic field, sunspot, solar corona, solar chromosphere, gravitation wave, photosphere, solar wind, toroidal magnetic field, cosmic ray emission

ABSTRACT: The author reviews briefly quiet-star solar phenomena. He explains the mechanism of solar convection, and analyzes the dimensions and properties of solar granules, and the vertical and horizontal movements of the granular structures of the solar magnetic field. The differential rotation of the sun is discussed, and the activity and changes of magnetic fields in sunspots are explained. The sun is said to resemble a magnetic star with a variable field. The author also reviews the

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L 44195-66

ACC NR: AP6016849

information of a magnetic field in an active area and the probable existence of toroidal magnetic fields, as well as the convective movements which produce various waves which heat the chromosphere and the corona. Calculations of their movement, the energy they carry, and their periodicity are mentioned. The chromosphere is stated to be favorable to the appearance of gravitation waves. It is possible that granulation and some types of photospheric movements are closely related to these waves. Temperatures in the solar atmosphere and in sunspot centers are examined, the origin of solar wind, and differences between photosphere and chromosphere in an active area and in a normal area are explained. The correlation between chromospheric flares and solar cosmic-ray emission is assumed. Solar flares which are considerably weaker and smaller than ordinary flares are called "whiskers", but the cause for their appearance is not yet known. [GC]

SUB CODE: 04, 03/ SUBM DATE: none/

Card 2/2

ACC NR: AP6013952 SOURCE CODE: UR/0026/66/000/004/0018/0028

AUTHOR: Pikel'ner, S. B. (Professor)

ORG: State Astronomical Institute im. P. K. Shternberg, Moscow (Gosudarstvennyy astronomicheskiy institut)

TITLE: Cosmic explosions, giant stars and galaxies

SOURCE: Priroda, no. 4, 1966, 18-28

TOPIC TAGS: galactic structure, galaxy, cosmic radio source, gravitation effect

ABSTRACT: A popular account of present day knowledge concerning explosions which take place in the nuclei of galaxies is presented. The following topics are covered: an explosion in the M82 galaxy, galaxies with high speed movement of gas in the nucleus, radio galaxies, quasi-stellar sources, energy of explosions, explosions in gaseous protogalaxies, galactic subsystems and the formation of rectilinear bridges. The author concludes that an explosion at the very early period of galaxy development leads to the formation of a galaxy with a bridge instead of a conventional spiral galaxy. This first period is relatively short--the stars of a spherical subsystem are formed over a period of less than $5 \cdot 10^8$ years. At the same time, approximately half of all the spiral systems have a bridge. This means that the explosions in the earlier stage of galaxy development were rather probable. If the probability of explosion at this time

Card 1/2 UDC: 523.038.85

ACC NR: AP6013952

were the same as in the initial period, i. e., if, in the last half of a billion years strong explosions took place in half of all the observed spiral galaxies, the number of radio galaxies would be much greater than the actual number. Consequently, in the early period of galaxy development when they contained a large amount of gas, explosions took place much more frequently than they do today. This supports the hypothesis that it is precisely the gaseous concentrations which explode, i. e., the energy of explosion is the gravitational energy of the contracting gas. Orig. art. has: 9 figures.

SUB CODE: 03/ SUBM DATE: none

Card 2/2

L 26112-66 EWT(1) GW

ACC NR: AP6011486 SOURCE CODE: UR/0053/66/088/003/0505/0526

AUTHOR: Pikel'ner, S. B.

62
B

ORG: Astronomy Institute im. P. K. Shternberg (Astronomicheskiy institut)

TITLE: Dynamics of solar atmosphere

SOURCE: Uspekhi fizicheskikh nauk, v. 88, no. 3, 1966, 505-526

TOPIC TAGS: thermodynamic equilibrium, gravitation wave, solar atmosphere, bremsstrahlung, solar photosphere, solar corona, solar wind, solar energy, entropy, solar magnetic field, solar prominence, sunspot, solar activity, solar chromosphere

ABSTRACT: Small periodic vertical motions in the photosphere and horizontal motions in large nucleus-like formations were observed on the solar surface. Large motions occur in meridional circulations and in differential rotation where the angular velocity increases from the poles to the equator. Motions in the photosphere create waves whose energy dissipates. Those waves deliver little energy by radiation and heat the upper layers causing the high coronal temperature. The coronal heat generates the solar wind or outflow of ionized gas. Deviations from thermodynamic equilibrium are caused by the emanation of thermal and mechanical energy from the photosphere. Studying the convective motions in the solar atmosphere facilitates understanding of stellar atmospheric phenomena. The transformation of radiative solar energy into mechanical energy

Card 1/5 UDC: 523.745

causes convection. Convective instability occurs in layers of ionized hydrogen in which the logarithmic gradient of radiation is greater than the algebraic one. Gas rises by convection to the height of homogeneous atmosphere, and is assimilated there. The velocity of the gas element is determined by the lifting force, and reaches 2 km/sec in the rarefied upper layer. The entropy of the system decreases in this layer because of radiative energy transfer. The instability of convection is very intense there, and convective transfer reaches its maximum. The importance of convective transfer decreases in the highest layers because of the small absorption coefficient.

Granules are not caused by convection; their mean size is about 700 km and their lifetime is about 8—10 minutes. Bright granules move upward, and the maximum speed is attained 40 seconds after the maximum brightness. The period of upward motion is 2.5 minutes. Very large granules have horizontal motions and are found deeper than normal granulation. The horizontal motion in large granules, or supergranules, may be caused by the magnetic field.

In addition to convective motions, a regular solar motion covers large areas of the surface. This motion consists of the differential ro-

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tation and the meridional circulation. The differential rotation is characterized by an increase in the angular velocity from the poles to the equator for upper layers of the surface. The meridional circulation shows a slow drift of prominences and other characteristics of long-lived phenomena. A transfer from middle latitudes to the poles lasts about 6—7 years. The latitudinal change of sunspots during a solar cycle shows a slow circulation from low latitudes to the equator. The meridional circulation may be explained by a spherical rotation of the sun which may turn into a baroclinic rotation. The rise of the circulation changes the angular velocity, and transfers the angular moment from layer to layer forming a heterogeneous rotation.

The motion in the solar atmosphere is also caused by its magnetic field. A strong magnetic field exists in sunspot groups where individual spots have their own polarities. The spot polarities of the solar Northern Hemisphere are opposite to those of the Southern Hemisphere; but the polarities are reversed in both hemispheres at the beginning of a new solar activity cycle. Before the magnetic field appears on the surface, action motions take place in the solar photosphere. Outside magnetically-active regions a weak magnetic field covers the whole solar surface. This field is stronger in near-polar regions and polarities are opposite in

each hemisphere. In the period of maximum solar activity the increased polar field reverses polarity. Active belts and bipolar regions in the North and South may be explained by a toroidal field beneath the solar surface.

Convective motions in the solar atmosphere create waves of a different kind which dissipate in the solar atmosphere and heat the chromosphere and the corona. There are accelerated and decelerated magnetic sound waves, Alfven's waves, and inner gravitational waves. Alfven's waves are predominant in the chromosphere, especially above the active regions. Acoustic waves are generated with isotropic turbulence and very small Mach numbers. The total flux of energy carried by waves is equal to 10^7 erg/cm sec and its intensity increases above the active regions. The change of this flux is determined by reflection, refraction, and absorption. The photosphere reflects waves having periods larger than 3 min; the other waves penetrate into the chromosphere. The propagation of waves in the solar atmosphere is caused by interchange of their energies. The temperature of the solar atmosphere is determined by the balance between heating by weak shock waves and gravitational waves and cooling by radiation. The density decreases with the altitude and the radiation. Wave energy heats the upper atmospheric layers causing the

temperature in the corona to rise to 10^5K. At the coronal level the thermal velocity of protons is equal to the solar parabolic velocity, and dissipation of the corona eliminates surplus energy. The flow of waves from the chromosphere to the corona above active regions is increased and the corona becomes denser and hotter.

The bremsstrahlung ("braking radiation") of relativistic electrons generates X and gamma radiation. The cosmic ray pressure creates bursts and ejections of gases with velocities up to 1500 km/sec. The shock wave propagated in the corona generates plasma waves which are transformed into electromagnetic waves. Relativistic electrons behind the shock wave create magnetic bremsstrahlung. Orig. art. has: 4 figures and 21 formulas. [ATD PRESS: 4224-F]

SUB CODE: 03, 20 / SUBM DATE: none / ORIG REF: 027 / OTH REF: 042

PIKERMAN, M.

Some problems of preparatory operations in ship repair. Mor. flot 15 no.6:16-17 Je '55. (MLRA 8:8)

1. Nachal'nik planovo-proizvodstvennogo otdela zavoda imeni X godovshchiny Oktyabr'skoy revolyutsii.
(Ships--Maintenance and repair)

FIKERMAN, S. M.

USSR/Human and Animal Physiology. The Effects of Physical Factors.

Abs Jour: Ref Zhur-Biol. No 20, 1958, 93737.

Author : Yakovleva, L. ., Lapin, ..., Fikerman, S.M., ..., M.I., Avetisova, S...

Inst :

Title : Characteristics of Paratyphoid Breslau in Monkeys Having Radiation Sickness.

Orig Pub: Med. radiologiya, 1957, 2, No 4, 58-65.

Abstract: Young Macacus monkeys were infected with a twenty-four hour culture of Bacterium typhi Breslau grown on solid agar, and they were then subjected to radiation of 250 - 400 r. ... and increased mortality were observed. ... specific ... were ... rate. Development of an anti-

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YAKOVLEVA, L.A.; LAPIN, B.A.; PIKERMAN, S.M.; NOVIKOVA, M.I.; AVETISOVA, S.A.

Characteristics of Breslau paratyphoid fever in monkeys in radiation sickness [with summary in English]. Med.rad. 2 no.4:58-65 Jl-Ag '57. (MIRA 10:11)

1. Iz laboratorii radiologii Sukhumskoy mediko-biologicheskoy stantsii AMN SSSR.

(ROENTGEN RAYS, effects,
on exper. paratyphoid fever in monkeys (Rus))
(PARATYPHOID FEVERS, experimental,
eff. of x-rays in monkeys (Rus))

PLATONOV, P., doktor tekhn.nauk; PIKERSGIL', A., inzh.

Automatic electronic humidity meter for determining the humidity of grain. Radio no.8:27-30 Ag '62. (MIRA 15:8)
(Humidity--Measurements) (Grain elevators--Electronic equipment)

PLATONOV, P., doktor tekhnicheskikh nauk; PIKERSGIL', A., dotsent

Automatic electronic moisture meter. Muk.-elev. prom. 28 no.7:13-15 Jl '62. (MIRA 15:9)

1. Odesskiy tekhnologicheskiy institut imeni Lomonosova.
(Grain--Drying)

IVANOV, A., kand.tekhn.nauk; PIKERSGIL', A., inzhener.

Using electronic indicators for controlling the work of continuous transportation systems. Muk.-elev.prom. 23 no.8:16-18 Ag '57. (MIRA 10:11)

1. Odesskiy tekhnologicheskiy institut im. I.V.Stalina.
(Conveying machinery) (Electronic instruments)

AUTHOR: Pikersgil', A. and Derzhavets, A. 107-9-35'53

TITLE: The HF Dynamic Loudspeaker (Vysokochastotnyy dinamicheskiy gromkogovoritel')

PERIODICAL: Radio, 1957, # 9, p 45 (USSR)

ABSTRACT: This article deals with the application of the HF spherical dynamic loudspeaker described in the German "Funkschau" # 22, 1956. The authors of this article stated that the performance of the loudspeaker was satisfactory with a 3-5 watt amplifier. When a 8-10 watt amplifier is used, such loudspeakers practically would not influence the tone color, which is damped by the other loudspeakers. The power increase caused also considerable non-linear distortions. The authors developed a similar design of a HF loudspeaker free from the aforementioned deficiencies, which is to be used only in combination with other loudspeakers reproducing frequencies of 1-15 kilocycles. It has a considerable directivity because of the diffuser. The design of this loudspeaker is described in detail.

The article contains 1 figure and 1 German reference.

AVAILABLE: Library of Congress

Card 1/1

05418
SOV/107-59-8-38/49

9(2)

AUTHOR: Pikersgil', A.

TITLE: An Amplifier and Acoustical Unit

PERIODICAL: Radio, 1959, Nr 8, pp 48 - 51 (USSR)

ABSTRACT: The author provides a detailed description of a console designed for large rooms. It consists of a phonograph, tape recorder, radio receiver and a 40 watt LF amplifier. The dimensions of the console are 1275x570x400 mm. Two series-connected, cophased 2A9 woofers having 30 and 50 cps as a resonance frequency, two 5GD-14 woofers with 70 and 90 cycles resonance frequency and four 2GD-11-1 tweeters reproducing frequencies up to 15 kc are installed. The loudspeakers 2GD-3, 5GD-14 are not suitable for this purpose, since they cause distortions at higher frequencies. The arrangement of the loudspeakers is shown in the diagrams of Figure 6. The circuit

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An Amplifier and Acoustical Unit

diagram of the LF amplifier is shown in Figure 1. The amplifier contains the following tubes: two 6N7S, one 6Zh8, one 6N70, three 6N8S and four G-807. The rectifier unit is composed of two 5Ts3S kenotrons and a selenium rectifier with VS-45 discs. Tubes 6N8S may be replaced by 6N1P tubes. When replacing tubes 6Zh8 by 6Zh3P or 6Zh1P, circuit adjustments are necessary. Replacing the 6N7S tubes is not advisable. A tone color control is also provided. The tape speed is 385 mm/sec (type of recorder not indicated). The pass band is 30cps to 15 kc. There are 2 circuit diagrams, 10 diagrams, 2 graphs and 1 table.

Card 2/2

PIKERSGIL', A.; DERZHAVETS, A.

High frequency dynamic loudspeaker. Radio no.9:45 S '57.
(MIRA 10:10)
(Loud-speakers)

PIKERSGIL', A. (Krasnovodsk)

"Baku" radio receiver. Radio no.1:23 Ja '54. (MLRA 7:1)
(Radio--Receivers and reception)

PIKFPS?IL' A.; DERZHAVETS, A.

Low-frequency amplifier with an acoustic aggregate. Radio no. 6:37-39 Je '58. (MIRA 11:7)
(Amplifiers, Electron-tube)

107-57-1-33/60

AUTHOR: Pikersgil', A. (Odessa)

TITLE: Filter for Effective Noise Suppression. Experience Exchange (Fil'tr dlya effektivnogo podavleniya pomekh. Obmen opytom)

PERIODICAL: Radio, 1957, Nr 1, p 58 (USSR)

ABSTRACT: In designing superheterodyne receivers with double-frequency conversion, a very difficult problem is that of suppressing signals whose frequency equals the first intermediate frequency. The ordinary rejection filter in the input of the receiver provide inadequate attenuation. The author suggests a new filter-stage circuit designed with one 6Zh4 tube and deep negative feedback. It was tested by the author at 3,350 kc and killed almost all noise in the 23.2 -6 mc broadcast receiver.
There are 2 figures in the article.

AVAILABLE: Library of Congress

Card 1/1

AUTHORS: Pikersgil', A., Derzhavets, A. 1[illegible]7-58-6-[illegible]

TITLE: LF Amplifier With Acoustical Unit [illegible] s akusticheskim agregatom)

PERIODICAL: Radio, 195[illegible], Nr 6, pp [illegible] (USSR)

ABSTRACT: The authors describe an amplifier for high-quality reproduction of musical programs and give instructions for assembling such a device. Since several loudspeakers may be used, the reproducible sound frequencies range from [illegible] to 14,000 cycles. The amplifier has an output of 20 va with a non-linear distortion factor of not more than 1%. The tone color can be regulated within a range of [illegible] cycles. The background noise is [illegible] at the amplifier outlet. The following tubes are used: [illegible] "6N8S", 1 "[illegible]N[illegible]S", [illegible], 1 "[illegible]Ts5S", 2 "[illegible]" and the diode "DG-Ts24". This device was developed by order of the periodical "Radio". Figure [illegible] shows the circuit arrangement of the amplifier. There are [illegible] diagrams and [illegible] tables.

Card 1/1

1. Amplifiers-Characteristics

PIKERSGIL', A. (Odessa).

Filter for effective suppression of noise. Radio no.1:58 Ja '57.
(Electric filters) (MLRA 10:2)

USSR/ Electronics - Radio receivers

Card 1/1 Pub. 89 - 12/28

Authors : Pikersgil', A.

Title : The "Baku" radio-receiver

Periodical : Radio 1, page 21, Jan 1954

Abstract : The reception of the "Baku - 51" radio receiver is critiqized. It is stated that poor radio reception is due to the factories' error in assembling the units.

Institution: .....

Submitted: .....

PIKERSGIL', A.A.; PLATONOV, P.N.

Selecting the work parameters of automatic capacitance moisture meters for grains in a flow. Izv. vys. ucheb. zav.; pishch. tekh. no.2:147-154 '63. (MIRA 16:5)

1. Odesskiy tekhnologicheskiy institut imeni Lomonosova, kafedra mekhanizatsii i avtomatizatsii proizvodstva.
(Moisture—Measurement) (Grain—Testing)

AUTHOR: Pikerskil', G. R.

TITLE: Unusual Weather Phenomena (Neobyknovennyye yavleniya pogody)

SOV/50-58-6-11/24

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 37 - 38 (USSR)

ABSTRACT: In the Kuban' region the summer of 1957 was unusually dry and hot. Already in the middle of April the air temperature rose up to 35 - 37° and in some places reached 40-41°. It rained only seldom and irregularly. On July 25th, there was an extremely violent downpour with hail in the district of Stanitsa Voznesenskaya (Labinskiy district). Within 50 minutes 141 mm precipitation fell. The weight of the hailstones amounted to 200 - 250 g, that of several single hailstones to 800 and 1400 g. The stones were flat, multiface shape, or the form of shapeless pure ice chunks. The damage caused by hail and floods was considerable. A cold front sector (in connection with a deep cyclone over the Donets) penetrated into the circulation system of a earlier formed cyclone which was formed over the central regions of North Caucasus. Another severe phenomenon was a strong gust of wind in the region of the Krasnodar airport (September 4th, 1957, 6 - 7 o'clock p.m.). Within 15 - 20 minutes the wind velocity reached 30 - 35 m/sec

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Unusual Weather Phenomena SOV/50-5-6-11/24

and more. This velocity could be measured only in this region, in other places it never exceeded 15 - 20 m/sec. The precipitations amounted to 30 - 40 mm near Krasnodar, whereas in other places 7 - 11 mm were never exceeded. The west of wind was connected with the evolution and shift of a thunderstorm and downpour center which appeared on September 4th, towards 5 o'clock p.m. 50 - 60 km west of Krasnodar. First it moved without considerable variations of intensity towards southeast, then eastward. Approximately 30 km before Krasnodar the center began to move towards northeast while its intensity and extension increased rapidly. Its intensity reached its maximum at Krasnodar with a velocity of 40 - 50 km/hour. Later the center made an anticlockwise loop with a diameter of approximately 150 km.

1. Meteorology--USSR 2. Climatic factors 3. Precipitation
4. Storms

Card 2/2

Czechoslovakia / Analytical Chemistry.
Analysis of Inorganic Substances. E-2

Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4326

Author : Bardodey, Krivutsova, Kukachkova, Pikha, Zdrazhil

Title : The Photometric Micro Determination of Hydrocyanic Acid and Cyanides

Orig Pub: Ceskosl. hyg., 1957, 2, No. 4, 244-250

Abstract: A previously described method (Epstein, E. Analyst. Chem, 1947, 19, 272) has been modified. In the HCN determination 1 liter of the air to be passes through 2 wash bottles containing 3 ml. of 0.1N NaOH for about 10 minutes. The contents are washed and neutralized by the addition of 0.3 ml. of 2M Na H_2PO_4. To 2 ml. of the re-

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Czechoslovakia / Analytical Chemistry.
Analysis of Inorganic Substances.

Abs Jour: Ref. Zhur - Khimiya No. 2, 1958, 4326

sulting solution is added 0.2 ml. of 1% solution of chloramine T and shook for 1 minute. To that, 5 ml. of the pyridine-pyrazolone (PPR) reagent (1 vol. pyridine - 4 vol. of 1% of 1-phenyl-3-methyl-5-pyrazolone) is added, heated for 7 minutes on a water bath at 70° C. and cooled. The extinction is measured in the photometer using an S 61 light filter. The resulting red-violet coloration changing into blue with time is stable for 20 minutes. The detection minimum of HCN is 0.1γ ; the limit of dilution 1:10⁷. Instead of PPR, pyridine-phloroglucinol (PFR) reagent (1 vol. of pyridine + 4 vol. of 1% phloroglucinol solution) can be used. In this case the readings are taken after a 7 minute

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ACCESSION NR: AR4033593 S/0169/64/000/002/G027/G027

SOURCE: Ref. zh. Geofiz., Abs. 2G191

AUTHOR: Ostrovskiy, A. Ye.; Pikha, Ya.; Skal'skiy, L.; Mironova, L. I.; Vitman, N. G.

TITLE: Tidal tilts indicated by observations with photoelectric tiltmeters at Prshibram (near Prague)

CITED SOURCE: Sb. Izuch. semn. prilivov. No. 3. M., AN SSSR, 1963, 59-69

TOPIC TAGS: gravity field, tiltmeter, photoelectric tiltmeter, earth tide, tidal tilt, earth tide component

TRANSLATION: Photoelectric tiltmeters of the Institute of Physics of the Earth of the Academy of Sciences USSR were set up at Prshibram in 1960 at a depth of 1,300 m near the horizontal pendulums of the Czechoslovakian Academy of Sciences. The electrodynamic constants of the tiltmeters were determined to an accuracy of 0.1-0.3%. The record of the tidal tilts was continuous with small gaps from June to December 1960. The behavior of individual components differed sharply from one another. Over a 7-month period the tilt in the north-south direction was 3" and in

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ACCESSION NR: AR4033593

the east-west direction 30". This tilt was caused by the movement of two blocks along whose contact a mine working had been excavated. The rate of the tilting did not remain constant with time, which appreciably worsened the results of analysis of the tidal observations. Harmonic analysis gave the following mean values γ determined from the M_2 wave:

$$\gamma_{N-S} = 0.665 \pm 0.011 \qquad \gamma_{E-W} = 0.702 \pm 0.019.$$

These figures indicate the existence of a real difference between γ_{N-S} and γ_{E-W} at Prahibram. B. Pertsev

DATE ACQ: 31Mar64 SUB CODE: AS ENCL: 00

Card 2/3

KAFKA, V. (Praga, 2-ya Sallovskaya, 10, Chekhoslovakiya); MUSIL, M. (Praga, Chekhoslovakiya); NOVOTNYY, A. [Novotny, A.] (Praga, Chekhoslovakiya); PADOVED, I. [Padoved, J.] (Praga, Chekhoslovakiya); PIKHA, Z. [Picha, Z.] (Praga, Chekhoslovakiya); SHORM, F. [Sorm, F.] (Praga, Chekhoslovakiya)

Treatment of malignant neoplasms in female sex organs by means of 6-azauracil. Vop onk. 8 no. 10:11-14 '62. (MIRA 17:7)

PIKHACHEV, G. N.
USSR/Biology - Zoology

Card 1/1 : Pub. 86 - 22/36

Authors : Pikhachev, G. N.

Title : The squirrel in the Tula oak groves

Periodical : Priroda 43/8, 111-112, Aug 1954

Abstract : Observations were made of the varying abundance of squirrels and the dependence of their numbers on the food supply, which was found to consist primarily of hazelnuts and secondarily of acorns in deciduous forests.

Institution : ...

Submitted : ...

L 44747-65 EWP(m)/EWT(1)/FCS(k)/EWA(d)/EWA(1) Pd-1

ACCESSION NR: AP5013190 CZ/0041/65/000/002/0219/0225

AUTHOR: Pichal, M. (Pikhal, M.) (Engineer, Candidate of sciences)

TITLE: Turbulent boundary layer on a flat wall in a highly turbulent flow

SOURCE: Strojnicky casopis, no. 2, 1965, 219-225

TOPIC TAGS: turbulent boundary layer, boundary layer, turbulence, turbulent flow, velocity profile

ABSTRACT: This paper presents new experimental data on the properties of the turbulent boundary layer on a flat wall. It is shown that the previous concept of solving the problem of a turbulent boundary layer is valid only for relatively low levels of turbulence in the main flow (e.g., in aviation aerodynamics), since it has been discovered that the effect of friction at the wall is considerable as a result of the change in intensity of the turbulence of the flow outside the boundary layer. This change is substantially greater than the corresponding pressure gradient. The velocity profile in the turbulent boundary layer can be expressed by the universal dimensionless function $u = U/u^* = f(y/\Delta)$, which can be assumed to be a system with at least two parameters - the intensity of the turbulence and the

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L 44747-65

ACCESSION NR: AP5013190

pressure gradient (and in some cases the aerodynamic surface smoothness as well). This points to the preservation of dynamic similarity of flow in individual cross sections of the boundary layer, which also confirms the course of the form factor $H_{1.2}$, which in a sufficiently developed turbulent boundary layer is approximately constant. It can be established from the course of $u/u_* = f(Re_y^*)$ that the change in intensity of the turbulence of the main flow does not affect the entire area of the boundary layer, but only a certain part of it at its outer edge. At the wall the well-known law of similarity holds good. Orig. art. has: 6 figures and 1 formula. [11]

ASSOCIATION: Ustav termomechaniky CSAV, Prague (Institute of Thermomechanics, CSAV)

SUBMITTED: 05Oct64 ENCL: 00 SUB CODE: ME

NO REF SOV: 000 OTHER: 011 ATD PRESS: 3256

Card 2/2

PIKHALENKO, I.G., gornyy inzh.-elektromekh.; SIDORUK N.S., gornyy inzh.-elektromekh.; FAYERMARK, A.A.; gornyy inzh.-elektromekh.

Automation of the production processes in the Southern Mining and Dressing Combine crushing plant. Gor.zhur. no.3:53-55 Mr '60. (MIRA 14:5)

1. Yuzhnyy gorno-obogatitel'nyy kombinat, Krivoy Rog.
(Ore dressing) (Automatic control)

PIKHART, Josef

Effect of latticelike poymerization and porosity of katexes on separation of sodium and otassium. Rudy 12 no. 6:180- Je '64.

1. Research Institut of Organic Syntheses, Pardubice-Rybitvi.

PIKHART, M. ; ZADERA, K.

Mechanical thickener in cellulose production. p. 374.

VODNI HOSPODARSTVI. (Ministerstvo energetiky a vodniho hospodarstvi a Vedecka technicka spolecnost pro vodni hospodarstvi) Praha, Czechoslovakia.
No. 9, Sept. 1959

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

Uncl.

TSVID, A., kand.tekhn.nauk; LUTSENKO, I.; PIKHAY, G.; SAKHAROV, M.; ZLODEYEV, P.; DENISENKO, V.

We get word. Stroitel' no.7:7 Jl '61. (MIRA 14:8)
(Construction industry--Technological innovations)

PIKHAY, G.V.; PYATKOVSKIY, A.G.

Manufacture of roof channel slabs in reinforced concrete dies. Bet. i zhel.-bet. 8 no.8:366-368 Ag '62. (MIRA 15:9)

1. Nachal'nik laboratorii zavoda zhelezobetonnykh izdeliy No.1 Kommunarskstroy (for Pikhay).
(Roofing, Concrete)

PIKHAY, G.V.

Manufacture of beams and roof slabs in dies. Prom. stroi. 40 no.2:48-49 '62. (MIRA 15:7)
(Precast concrete)

LIVANOVA, N.B.; PIKHEL'GAS, V.Ya.; SHVIKITER, V.C.

Transformations of phosphorylase B in acid and alkaline media.
Dokl. AN SSSR 161 no.6:1222-1223 Ap '65. MIRA 18:

1. Submitted July 3, 1964.

S/137/60/000/011/030/043
A006/A001

Translation from: Referatinvyy zhurnal, Metallurgiya, 1960, No.11, p. 241, # 27170

AUTHOR: Pikhel'son, V.P.

TITLE: Changes in the Magnitude of Microstresses During the Run-In Process of a Copper-Steel Pseudo-Alloy

PERIODICAL: Tr. Rostovsk-n/D. in-ta s.-kh. mashinostr., 1959, No. 12, pp. 28 - 31

V

TEXT: The author studied changes in the magnitude of microstresses during the run-in process of a copper-steel pseudo-alloy. The tests were made with two series of ring specimens, used for the investigation of the friction process, namely: rings with crude and annealed pseudo-alloy. Run-in process was conducted up to a specific pressure of 60 kg/cm^2; loading was performed by steps of 10 kg/cm^2 each; microphotograms were taken after each alternate loading. It is shown that the initial run-in process, which is accompanied by a high friction coefficient and high wear, is characterized by lesser changes in the magni-

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S/137/60/000/011/030/043
A006/A001

Changes in the Magnitude of Microstresses During the Run-In Process of a Copper-Steel Pseudo-Alloy

tude of microstresses than the subsequent periods. In due course the specimen surface is more and more cold hardened and strengthened, as the deformation spreads in the layer depth. This causes a still higher increase of microstresses. It is established that the gradient of stress changes of crude pseudo-alloy is lower than that of annealed pseudo-alloy; this predetermines is greater wear resistance.

Z.F.

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

Card 2/2

PIKHEL'SON, V. F., Cand Tech Sci -- "Study of physico-mechanical and anti-friction properties of the copper-steel alloy." Novocherkassk, 1961. (Min of Higher and Sec Spec Ed USSR. Novocherkassk Order of Labor Red Banner Polytech Inst im S. Ordzhonikidze) (KL, 8-61, 247)

85720

S/137/60/000/011/026/043
A006/A001

IX. 1150

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 11, p. 199, # 26862

AUTHORS: Krasnichenko, L.V., Pikhel'son, V.P., Shapkin, V.M.

TITLE: Run-in Ability of a Copper-Steel Pseudo-Alloy

PERIODICAL: Tr. Rostovsk.-n/d. in-ta s.-kh. mashinostr., 1959, No. 12, pp. 32-38

TEXT: The authors describe the effect of stepped and stepless loading on the run-in process of a Cu-steel pseudo-alloy. They investigated three groups of the ПСт, М20 (PSt, M20) pseudo alloy with an initial roughness of about 0.4 mm, which were loaded by steps of 4.5 kg/cm^2, 11.2 kg/cm^2 and with a continuously increasing load of 0.562 kg/cm^2 per minute. The loading time lasted in all the three cases 80 minutes with bringing the specific load to 45 kg/cm^2. The dependence of the friction moment, the temperature of the operating surface and the coefficient of friction, on the load applied and the run-in time, was investigated. Moreover, changes in the oil-film state along the friction path were studied. It

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88720

S/137/60/000/011/026/043
A006/A001

Run-in Ability of a Copper-Steel Pseudo-Alloy

was established that the Cu-steel pseudo-alloy showed satisfactory short-time run-in ability, which is explained by the rapid recovery of the oil film at the expense of the oil accumulated in the pores. The run-in process should preferable be conducted with stepless loading, since the time required to obtain constant friction moment and temperature is in this case twice as short as in stepped loading. The Cu-steel pseudo-alloy can be recommended as an antifriction bearing material.

I.A.

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

Card 2/2

PIKHEN'

POLAND/Analytical Chemistry - Analysis of Inorganic Substances E-2

Abs Jour : Ref Zhur - Khimiya, No 3, 1958, No 7042

Author : Ventslevskaya, Pikhen'
Inst : Not Given
Title : The Polarographic Determination of Trace Amounts of Metals in Pure Aluminum.

Orig Pub : Chem. anal., 1956, No 2-3, 180-183

Abstract : Four g. of the aluminum being analyzed is dissolved in HCl (1:1) and when the solubilization is almost completed, a small quantity of H_2O_2 is added. The solution is boiled to remove the excess H_2O_2 and diluted to 100 ml. Pb, Zn, Cu, Fe and Mn are determined in aliquots polarographically. When the content of the determined metals in the aluminum being analyzed is $<10^{-2}$% they are concentrated by treatment with NaOH.

Card : 1/1

PIKHL, Kh.O. [Pihl,H.]

[redacted]stonian S.S.R. Trudy Len.inst.epid. i mikrobiol. 21:210-215'60. (MIRA 16:6)

1. Iz Tallinskogo instituta epidemiologii, mikrobiologii i gigiyeny.
(ESTONIA—SALMONELLA INFECTIONS)

TERAS, Yu.Kh.[Teras, J.], red.; LAAN, I.A., red.; PIKHL, Kh.O. [Pihl, H.], red.; TALLMEYSTER, E.T.[Tallmeister, E.], red.; YANNUS, L.E.[Jannus, L.], red.; KLENSKIY, K.S., nauchnyy red.; SEVAST'YANOV, A., red.; TOOMSALU, E., tekhn. red.

[Investigations in microbiology] Issledovaniia po mikrobiologii. Tallinn. Vol.1. 1961. 221 p. (MIRA 15:6)

1. Eesti NSV Teaduste Akadeemia. Eksperimentaalse ja Kliinilise Meditsiini Instituut.

(MEDICAL MICROBIOLOGY)

PIKHL, Kh.O.

Outbreak of Salmonella newport infection in a nursery. Zhur. mikrobiol.epid.i immun. 32 no.2:124-126 F '61. (MIRA 14:6)

1. Iz Tallinskogo instituta epidemiologii, mikrobiologii i gigiyeny.
(SALMONELLA)

ESTONIA/Chemical Technology - Ceramics, Glass, Binding Materials, Concretes. H.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 54726

Author : Pikhlak
Inst :
Title : Industrial Technology in the Manufacture of Glazed Tiles

Orig Pub : Tehnika ja tootmine, 1958, No 1, 11-13

Abstract : No abstract.

Card 1/1

SILLA, R.V., kand. med. nauk; PIKHL, Kh.O.[Pihl, H.]; KAPLAN, A.

[Reports of the Third Scientific Conference of the Tallinn Scientific Research Institute of Epidemiology, Microbiology, and Hygiene]Sbornik dokladov tret'ei nauchnoi konferentsii Tallinskogo nauchno-issledovatel'skogo instituta epidemiologii, mikrobiologii i gigieny. Tallinn, 1961. 318 p. (MIRA 16:11)

1. Tallinn. Epidemioloogia, Mikrobioloogia ja Hugieeni Teadusliku Uurimise Instituut. Konverets, 3d, 1960. 2. Tallinskiy nauchno-issledovatel'skiy institut epidemiologii, mikrobiologii i gigiyeny (for Silla, Pikhl).
(INTESTINES--DISEASES) (POLIOMYELITIS)
(CHILDREN--CARE AND HYGIENE)

PIKHLAK, A. A. (Noril'sk)

Mosquitoes and methane. Priroda 52 no.1:70 '63.
(MIRA 16:1)

(Mosquitoes) (Methane)

PIKHLAK, E.G. (Moskva)

Gout. Med. sestra 22 no.9:41-46 S'63. (MIRA 16:10)
(GOUT)

PIKHLAK, E. G.

Genesis, prevention, and treatment of gastroduodenal hemorrhages complicating steroid therapy. Terap. arkh. no.12:83-90 '61. (MIRA 15:2)

1. Iz otdeleniya infektartrita (zav. - prof. M. G. Astapenko) Gosudarstvennogo instituta revmatizma (dir. - deystvitel'nyy chlen AMN SSSR prof. A. I. Nesterov) Ministerstva zdravookhraneniya RSFSR.

(STEROIDS—TOXICOLOGY) (HEMORRHAGE)
(DIGESTIVE ORGANS—DISEASES)

PIKHLAK, E.G.

Blood transfusion in treating infectious nonspecific polyarthritis. Sov.med. 25 no.6:90-94 Je '61. (MIRA 15:1)

1. Iz kafedry fakul'tetskoy terapii II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova i Instituta revmatizma Ministerstva zdravookhraneniya RSFSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.Nesterov).
(ARTHRITIS) (BLOOD--TRANSFUSION)

PIKHLAK, Ye.G.

Local administration of hydrocortisone in the treatment of nonspecific infectious polyrthritis. Terap.arkh. 32 no.10: 71-76 '60. (MIRA 14:1)

1. Oz otdeleniya infektartrita (zav. - doktor med.nauk M.G. Astapenko) Gosudarstvennogo nauchno-issledovatel'skogo instituta revmatizma, Moskva.
(ARTHRITIS, RHEUMATOID) (CORTISONE)

BESOVTSEVA, A.G.; S[illegible]LOV, A.G.; MAAEVERE, E.; LILLEMAA, A., kand. sel'khoz. nauk; PIKHLASTE, L.K.[Pihlaste, L.]; PROKHOROVA, Z.P.; MARTIN, T.; KUL'BIN, V.P.; ISAYEVA, Z.I.; EYPRE, T.F.[Eibre, T.]; KOBINA, L.V.; SUBBOTINA, V.I.; ZHDANOVA, L.P., red ; BRAYNINA, M.I., tekhn. red.

[Agriclimatological manual for the Estonian S.S.R.] Agroklimaticheskii spravochnik po Estonskoi SSR. Leningrad, Gidrometeoizdat, 196[illegible]. 197 p. (MIRA 17:1)

1. Estonian S.S.R. Upravleniye gidrometeorologicheskoy sluzhby. 2. Estonskiy nauchno-issledovatel'skiy institut zemledeliya i melioratsii (for Lillemaa). 3. Glavnyy agronom Upravleniya sadovodstva i pchelovodstva Ministerstva sel'skogo khozyaystva Estonskoy SSR (for Kul'bin). (Estonia--Crops and climate)

PIKHLER, G.; KHOL'TSER, Y.; UL'RIKH, R.; FREYDORFER, K.; PETTS, E.

Unforgettable impressions. Avt.transp. 40 no.9:12-13 S '62. (MIRA 15:9)

(Austria--Relations (General) with Russia)

L 3590-66 EWT(m)/EWP(w)/EPF(c)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) IJP(c) MJW/JD/WB
ACCESSION NR: AP5022409 UR/0369/65/000/004/0499/0502

AUTHOR: Boltarovich, A. V.; Pikhmurskiy, V. I.; Gutman, E. M.; Meyerson, I. L.; Karpenko, G. V.

TITLE: Corrosion fatigue of VT3-1 titanium alloy

SOURCE: Fiziko-khimicheskaya mekhanika materialov, no. 4, 1965, 499-502

TOPIC TAGS: titanium alloy, alloy corrosion, alloy corrosion resistance, alloy fatigue strength, corrosion fatigue strength/VT3-1 titanium alloy

ABSTRACT: Unnotched and notched specimens of VT3-1 titanium [U.S. Ti155A] alloy in the as-delivered condition (annealed for 1 hr at 870C, furnace cooled to 650C, held for 1 hr, air cooled to room temperature) or after aging at 400—900C for 1 hr or at 500C for 2—100 hr were tested for corrosion resistance in 40—78% H_2SO_4 and for fatigue behavior in air or in a 3% solution of NaCl. The alloy aged at 700C had the highest and the alloy aged at 800—900C had the lowest corrosion rate: 0.140 and 0.121 mm per year, respectively, compared with 0.124 mm per year for alloy in the as-delivered condition. The highest corrosion rate results from the maximum dispersion of the β-phase structure, which increases the active area of microscopic galvanic pairs that cause corrosion. With aging at temperatures higher than 700C,

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ACCESSION NR: AP5022409

the structure components coagulate, thus decreasing the active area of microgalvanic pairs and, correspondingly, the corrosion rate. In isothermal aging, the corrosion rate increased with exposure time, e.g., at 500C from 0.123 to 0.140 mm per year for 2 and 100 hr, respectively. The corrosion incubation period of identically aged VT3-1 alloy increased with the exposure time and decreased with increasing acid concentration. The alloy had high corrosion rates at acid concentrations of 40—70 and 78% and a minimum rate at a 53% concentration. In fatigue and corrosion fatigue tests, unnotched and notched alloy specimens were subjected to rotating bend test at 40C in air (10^7 cycles) and in humid air (97% humidity) and in a 3% NaCl solution ($5 \cdot 10^7$ cycles). The test results (see Fig. 1 of Enclosure) showed that the alloy fatigue strength in air was 52 dan/mm^2. Under the action of 3% NaCl solution, the conditional endurance limit continuously decreased to 48 dan/mm^2 at $5 \cdot 10^7$ cycles. Aging at 500C for 2 hr had no effect on the endurance limit of the alloy in all investigated media. In corrosive media, the effect of stress concentrators on fatigue strength was negligible. Previous corrosion decreased the fatigue strength of VT3-1 alloy in air from 52 to 39.5 dan/mm^2. In 3% NaCl solution, the conditional endurance limit stress at the $5 \cdot 10^7$ cycle basis was 48 and 38 dan/mm^2 for virgin and precorroded specimens, respectively. The VT3-1 alloy appears to be a suitable material

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L 3590-66
ACCESSION NR: AP5022409

3

for parts working under stresses in aggressive media. Orig. art. has: 1 figure and 1 table.
[MS]

ASSOCIATION: Fiziko-mekhanicheskiy institut AN UkrSSR, L'vov (Physicomechanical Institute, AN UkrSSR)

SUBMITTED: 04Apr65 ENCL: 01 SUB CODE: MM

NO REF SOV: 005 OTHER: 000 ATD PRESS: 4114

Card 3/4

L 3590-66

ACCESSION NR: AP5022409

ENCLOSURE: 01

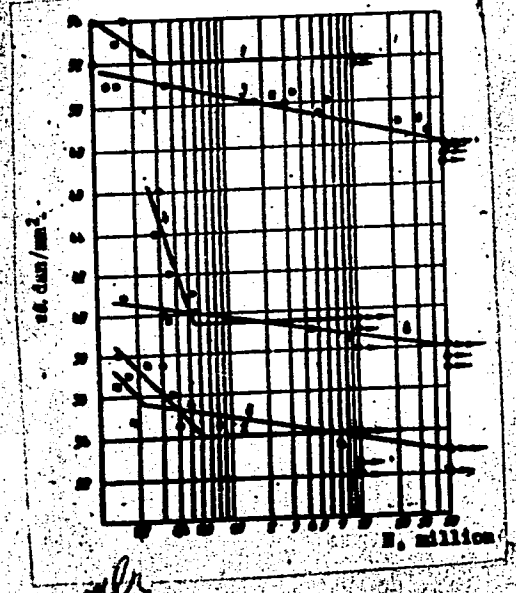

Fig. 1. Fatigue and corrosion-fatigue strength of VT3-1 titanium alloy

1a - Unnotched specimens; 2δ - notched specimens; 3 - specimens tested in humid air at 40C; 4_c - pre-corroded specimens; 1, 2, 4 - tests in air; a, δ, b - tests in a 3% NaCl solution.

Card 4/4

14-57-6-12421D

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 6, p 100 (USSR)

AUTHOR: Pikho, A. P.

TITLE: Agrochemical Properties of Podzol and Swamp Soils in the Estonian SSR (Ob agrokhimicheskikh svoystvakh podzolistykh i zabolochennykh pochv

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Agricultural Sciences, presented to Est. s-kh. akad. (Estonian Agricultural Academy), Tartu, 1956

ASSOCIATION: Est. s-kh. akad. (Estonian Agricultural Academy)

Card 1/1

Name	:	PIKHO, A. P.
Dissertation	:	Cultivation properties of Podzolic and swampy soils of the Estonian SSR
Degree	:	Cand Agr Sci
Defended At	:	Estonian Agricultural Academy
Publication Date, Place	:	1956, Tartu
Source	:	Knizhnaya Letopis' No 5, 1957

PIKHOOYA, R.I., glavnyy veterinarnyy vrach Kamenskogo rayona, Kalininskoy oblasti.

Prophylaxis of noninfectious diseases in young animals. Veterinariia 33 no.7:20-23 Jl '56. (MLRA 9:9)
(Kamenskiy District--Stock and stockbreeding)(Veterinary medicine)

EL'MAN, A.; PIKHOVKIN, F., ekonomist; POLYANSKIY, M.; ANTONENKO, Ye. (Rostov-na-Donu); ZHBANNIKOVA, T., tekhnik (Chkalovsk, Gor'kovskoy obl.); PANFILOVA, V., tekhnik (Chkalovsk, Gor'kovskoy obl.); GOLOVANOV, A.

We discuss O. Gabarov's letter entitled "We must not work this way any longer". Zhil.-kom.khoz. 12 no.8:10-11 Ag '62.
(MIRA 16:2)

1. Nachal'nik zhilishchno-kommunal'nogo otdela g. Kolpino, Leningradskoy obl. (for El'man). 2. Zhilishchno-kommunal'naya kontora tresta "Krasnodarstroy", Krasnodar (for Pikhovkin). 3. Glavnyy inzh. filiala Moskovskogo oblastnogo proyektnogo instituta, g. Klin, Moskovskoy obl. (for Polyanskiy). 4. Nachal'nik zhilishchno-kommunal'noy kontory Khabarovskogo soveta narodnogo khozyaystva (for Golovanov).
(Housing management)

PIKHOVKIN, I.V.

Improving the appearance of nonwoven fabrics. Leh. prom. no.3:13-14 Jl-S '64. (MIRA 17:10)

ACC NR: AP7003155 SOURCE CODE: UR/0368/66/005/006/0793/0794

AUTHOR: Obukhova, Ye. S.; Pikhtelev, A. I.; Rudnevskiy, N. K.

ORG: none

TITLE: Spectral investigations of a rubidium light source

SOURCE: Zhurnal prikladnoy spektroskopii, v. 5, no. 6, 1966, 793-794

TOPIC TAGS: rubidium, optic pumping, electric lamp, signal to noise ratio, optic spectrum, hyperfine structure, temperature dependence, pressure effect

ABSTRACT: To obtain an optical pumping source suitable for use in precision magnetometers and in frequency standards, the authors investigated the spectra of electrodeless rubidium lamps similar to those described by W. E. Bell et al. (Rev. Sci. Instrum. v. 32, no. 6, 688, 1961). Rb^{87} was used as the working gas and Kr and Ar as buffers. The exciting-generator frequency was 90 - 100 MHz. The tests consisted of determining the fine-structure components of the various lines present in the spectrum of the lamp (besides the main 7800 and 7947 Å doublet), which affect adversely the signal/nois ratio, the dependence of the line intensities on the voltage applied to the lamp, the effect of different argon and krypton pressures, and the variation of the half-width and intensity of the hyperfine components of the main doublet as functions of the voltage and temperature. The latter tests have shown that a change of voltage from 90 to 150 v (corresponding to an increase in power from 3 to 8 watts) changes the line width by not more than a factor of 2, while the line intensity is

UDC: 535.89

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ACC NR: AP7003155

increased by a factor 4 - 5. When the line width more than doubles, self reversal sets in, and this reduces the usefulness of the lamp. The higher the voltage, the lower the temperature at which self-reversal sets in (it ranges from 110 to 60C as the voltage is changed from 100 to 150 v). The lamp becomes unstable at voltages above 190. Orig. art. has: 2 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 15Nov65/ OTH REF: 002/ ATD PRESS: 5113

Card 2/2

PIKHTEREVA, S.

PIKHTEREVA, S., mashinist elektrovoza.

Accelerated hauling work. Mast.ugl. 3 no.7:6 Jl '54. (MLRA 7:7)
(Mine haulage)

PIKHTEYEV, G.N.

USSR

1717. Pikhteev, G. N., Determination of the two-dimensional potential motion of an incompressible fluid from given values of the direction of its velocity (in Russian), *Prikl. Mat. Mekh.* 18, 3, 379-380, May/June 1954.

Let $Ve^{i\theta}$ be the velocity. Since θ and $-\ln V$ are conjugate harmonic functions, the velocity potential corresponding to given harmonics θ is readily found by quadratures.

J. H. Giese, USA

PICHTEJEV, G.N.

SUBJECT USSR/MATHEMATICS/Differential equations CARD 1/3 PG - 32
AUTHOR PICHTEJEV G.N.
TITLE On the problem concerning the flow around a curved bow by liquid streams in a bounded and in an unbounded flow of an ideal incompressible fluid.
PERIODICAL Priklad. Mat. Mech. 19, 421-432 (1955)
reviewed 5/1956

The author considers the flow around a symmetric bow by liquid rays of a stream of an ideal incompressible fluid limited by two plates. The axis of symmetry of the bow L is the middle line of the two plates; the points of separation of the liquid rays from L then are also symmetric. The distribution of the velocities on the bow L is supposed to be given. The form of the bow and the equations of the liquid rays are required. The solution is obtained by applying the classical method of conformal mapping. The solvability of the mixed problem thus appearing is proved. The most important difficulty for concrete problems consists in the calculation of the occuring definite integral

$$J = \sqrt{a^2-\xi^2}\int_{-1}^{+1} \frac{\ln f(t)\,dt}{\sqrt{a^2-t^2}(t-\xi)},$$

where f is a continuous, positive and bounded function of the arc length s of L

with $f(0) = 0$, $f(1) = 1$. By f the distribution of the velocity is determined: $V = v_o f(\frac{s}{s_o})$. Transformations and set ups are given which permit to represent J as an infinite trigonometric series. The required general equation of the bow and the equations of the liquid rays are obtained in a parameter representation. These general considerations are followed by some special cases:

1) For $V = v_o \operatorname{tg}(\frac{\pi s}{4s_o})$ the bow is given by the equations

$$x = \frac{4s_o}{\pi} \int_0^{\cos\theta} \frac{1}{1+t^2} \sin\frac{\pi}{4} g(t)\, dt, \qquad 0 \leq \theta \leq \frac{\pi}{2},$$

$$y = \frac{4s_o}{\pi} \int_0^{\cos\theta} \frac{1}{1+t^2} \cos\frac{\pi}{4} g(t)\, dt, \qquad g(t) = \frac{2}{\pi^2} \int_0^t \frac{1}{t} \ln\frac{1+t}{1-t}\, dt.$$

2) The flow around L is considered in an infinite stream and the equations for the bow and for the liquid rays are given.

3) The Kirchhoff condition (the rays are not allowed to intersect with one another) is fulfilled if and only if f satisfies the inequality

$$\int_0^1 f(t) \ln f(t) \left(\int_0^t f(s)\, ds \right)^{-1/2} dt = C_2 \neq 0.$$

4) A more exact solution of the problem in question for bounded stream is carried out for

$$V = v_0 \sqrt{\frac{(1-t)(\beta+t)}{(1+t)(\beta-t)}}, \quad 1 \leq \beta \leq \infty, \quad s = c \int_0^1 \frac{t(1+t)(\beta-t)\, dt}{(a^2-t^2)\sqrt{(\beta^2-t^2)(1-t^2)}}.$$

The solution gives, for certain values of the parameter, either a curve similar to a parabola or to a cycloide.

5) The well-known equations for the flow around plates follow as special cases from the general results.

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AUTHOR: Pikhtin, A. N.; Yas'kov, D. A.

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TITLE: Dispersion of the refractive index of light in gallium phosphide

SOURCE: Fizika tverdogo tela, v. 9, no. 1, 1967, 145-149

TOPIC TAGS: gallium phosphide, light dispersion, refractive index, light reflection, laser optic material

ABSTRACT: In view of the lack of detailed data on this subject, and of the importance of GaP as an injection-laser material, the authors study in detail the refraction of light in this substance and present an analytic expression with which the refractive index can be determined over a wide range of photon energies (1.0 - 2.35 ev) and for different temperatures (80 - 290K). The theoretical formula was derived from the dispersion relations. The experiments consisted of absolute measurements of the specular-reflection coefficient of polished n- and p-type GaP plates and determining the refractive index by measuring the angle of least deflection of the radiation by a prism made of the investigated GaP. The test procedures are described briefly. The refractive index drops from an approximate value of 3.4 at 2.5 ev to 2.006 at 290K and 2.983 at 80K at zero photon energy. The temperature coefficient of the refractive index is ~(-5×10^{-4}) ev/°K at 290K. Orig. art. has:

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3 figures, 9 formulas, and 1 table. [02]

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Card 2/2

L 46180-65 EWP(e)/EWT(m)/EPF(n)-2/EWG(m)/EPR/T/EWP(t)/EWP(b)/EWA(c) Ps-4/
Pu-4 IJP(c) JD/JG/AT/WH

ACCESSION NR: AP5012492 UR/0032/65/031/005/0559/0561

AUTHOR: Pikhtin, A. N.

TITLE: Spectroscopic analysis of silicon carbide

SOURCE: Zavodskaya laboratoriya, v. 31, no. 5, 1965, 559-561

TOPIC TAGS: silicon carbide, spectroscopic analysis, impurity determination, direct arc excitation

ABSTRACT: Sixteen elemental impurities, ten of them with increased sensitivity, have been simultaneously determined in technical grade or single crystalline silicon carbide by direct current arc emission spectroscopy under optimized excitation conditions. Exposition time, mode of preparation of the standards, and the effect of atmosphere were studied. A 45-sec exposition was selected for simultaneous determination of all elements, independent of the mode of preparation of the standards. A relative sensitivity in the 2×10^{-3} to 3×10^{-6}% range and an average relative error of 15—20%, depending on the element, were achieved using excitation in the air and calibration curves plotted with standards made on the basis of silicon carbide. Arc excitation in an inert gas atmosphere and use of the standards on the silica base increased the sensitivity of determinations of

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ten impurities by one order of magnitude over contemporary standard values and made it comparable to that achieved by the volatilization method [V. T. Kalinnikov, A. N. Shteynberg, Zavodskaya laboratoriya, 30, 2, 178 (1964)]. Orig. art. has: 2 figures and 1 table. [JK]

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im. V. I. Ul'yanova (Leningrad Electrotechnical Institute).

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NO REF SOV: 004 OTHER: 004 ATD PRESS: 4002

Card 2/2

PIKHTOVNIKOV, R. [Pikhtovnykov, R.], prof. (Khar'kov)

Explosion treats metals. Nauka i zhyttia 12 no.7:13-14 Jl '62.
(MIRA 16:1)
(Explosives in sheet metal work)

ISACHENKOV, Ye. I., PIKHTOVNIKOV, R. V.

Deformations (Mechanics)

"Effect of the speed of deformation on the process of stamping parts from steel sheet." Vest mash. 32 no. 5, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, October 1952. Unclassified.

137-58-5-9588

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 108 (USSR)

AUTHOR: Pikhtovnikov, R. V.

TITLE: The Latest in Forming Techniques: Sheet Metal Drawing (Novoye v tekhnologii shtampovki-vytyazhki listovogo metalla)

PERIODICAL: V sb.: Progressivn. metody shtampovki i kovki. Khar'kov, Oblizdat, 1957, pp 164-170

ABSTRACT: The problem of intensifying the cold forming (F) process by increasing the reduction ratio per working stroke of the press, employment of simplified forms of equipment, and the development of high-speed and superspeed methods is examined. To increase the reduction ratio, heating of the flange is recommended in the case of Al and Mg alloys and deep cooling of the zone of maximum stresses in the case of structural steels, as well as the use of reversible dies permitting the drawing and the redrawing operation to be performed at a single stroke of the press. F with simplified fixtures is advantageous not only in terms of cost but through the reduction in the number of operations afforded by it. Development of high-speed and superspeed methods of cold F is possible if lubricants of optimum viscosity are employed. This makes F by shock wave pressure possible. V. F.

Card 1/1

1. Brakes (Metalworking)--Operation 2. Metals--Processing

137-58-6-12222

Translation from Referativnyy zhurnal, Metallurgiya 1958, Nr 6, p 150 (USSR)

AUTHOR Pikhtovnikov R.V.

TITLE Superspeed Stamping and Drawing of Sheet Metal (Sverkhskorostnaya shtampovka-vytyazhka listovogo metalla)

PERIODICAL Tr. Khar kovsk. aviats. in-ta, 1957, Nr 17, pp 3-9

ABSTRACT A rationale is provided for the possibility of employing high speeds in the pressworking of metals. This proposition is proved experimentally as it applies to cold drawing (D) in a special equipment where the punch, actuated by the explosion of gunpowder gases, attained speeds of as high as 300 m/sec. Drawing proceeded without breakage or noticeable decline in the reduction ratio when lubricants of optimum viscosity were employed, as these eliminated the pronounced rise in the forces of friction up to velocities of the order of 100 m/sec. Further increase in speed did lead to a decline in the reduction ratio due to a rise in the forces of inertia. The conclusion drawn to the effect that a virtually unlimited increase in the speeds of pressworking is possible provides a foundation for the development of new processes of production and in certain

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Superspeed Stamping and Drawing of Sheet Metal

cases of exceedingly simple machining tools and equipment.

M.I.

1. Metals--Properties 2. Metals--[illegible] 3. Machine [illegible]--Applications

Card 2/2

SOV/137-58-7-14802

Translation from Referativnyy zhurnal. Metallurgiya. 1958 Nr 7 p 124 (USSR)

AUTHOR Pikhtovnikov, P.V.

TITLE Some Questions in the Theory of Single-pass Drawing (Nekotoryye voprosy teorii odnoperekhodnoy shtampovki-vytyazhki)

PERIODICAL. Trudy Khar'kovskogo aviatsionnogo instituta, 1957, Nr 17 pp 63-90

ABSTRACT An analysis is made of the process of drawing (D). An examination is made of the mechanism of single-pass D, and formulas are derived to determine kinematic relationships and to determine the forces and stresses at work. An approximate equation is provided for determination of the magnitude of the work done in D. An investigation is made of the mechanism of deformation of the material on the drawing edge of the die, and it is shown that plastic-bending concepts are not applicable in this case. A method for calculating the resistance of the metal to forging is provided.

Card 1/1 1. Steel--Forging 2. Steel--Mechanical properties 3. MTs 4. Steel--Forging