KAZAN[illegible]KAYA, T. B., GALANINA, L. A., POLTAVA, I. G., AGATOV, P. A. (USSR)

"Participation of Certain Chemical Compounds in Streptomycin Biosynthesis."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 August 1961

POLTAVA, I.G.; KAZANSKAYA, T.B.

Morphology and cytology of Actinomyces streptomycini in relation to the composition of culture media. Mikrobiologiia 30 no.1:72-75 Ja-F '61. (MIRA 14:5)

1. Institut mikrobiologii AN SSSR.
(ANTINOMYCES)

KAZANSKAYA, T.B.; ORLOVA, I.G.

Effect of organic acids of the aliphatic series C_2 - C_6 on the growth of Actinomyces streptomycini and the formation of streptomycin by it. Dokl.AN SSSR 145 no.5:1158-1159 '62. (MIRA 15:8)

1. Predstavleno akademikom V.N.Shaposhnikovym.
(STREPTOMYCIN) (ACIDS, FATTY) (ACTINOMYCES)

SHAPOSHNIKOV, V.N.; KAZANSKAYA, T.B.; ORLOVA, I.G.

Effect of dicarboxylic acids and some other compounds on the biosynthesis of streptomycin. Izv.AN SSSR.Ser.biol. no.6:813-824 N-D '62. (MIRA 16:1)

1. Institut mikrobiologii AN SSSR.
(STREPTOMYCIN)

SHAPOSHNIKOV, V.N., akademik; KAZANSKAYA, T.B.; ORLOVA, I.G.

Characteristics of Aerobacter cloacae No.28 as related to the accumulatio' of valine in the medium. Dokl. AN SSSR 159 no.6: 1408-1410 D '64 (MIRA 18:1)

1. Institut mikrobiologii AN SSSR.

IMSHENETSKIY, A.A.; ROITENSHTEYN, Ya.I.; KARANSKAYA, T.B.; BUKHTEREVA, M.N.

Pavel Andreevich Agatov, 1905- ; on his 60th birthday. Mikrobiologiia 34 no.4:749 Jl-Ag '65. (MIRA 18:10)

PUSTOVALOV, V.V.; Prinimala uchastiye KAZANSKAYA, T.G.

High temperature (up to 2,400°) determination in vacuum of the heat conductivity of refractory materials. Sbor.nauch.trud. UNIIO no.5:324-335 '61. (MIRA 15:12)
(Refractory materials—Thermal properties)

AUTHORS: Tishchenko, V. V., Kazanskaya, V. F. SOV/79-28-8-59/66

TITLE: Transformation of Δ^3-p-Menthene on the "Gumbrine" Clay
(Prevrashcheniye Δ^3-p-mentena na gumbrine)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp. 2277 - 2279 (USSR)

ABSTRACT: Investigations concerning the isomerization of the cyclic hydrocarbons with the naturally occurring aluminium silicate catalyst are closely allied to questions of the origin and transformation of earth oil. The isomerization of the aromatic and several earth oil hydrocarbons have been well investigated, but the cyclic compounds with one or two bonds in the nucleus have been investigated in this respect to only a slight extent. It is the purpose of this paper to supply some much-needed information in this area. Reports on the isomerization of menthene in the presence of a natural aluminium silicate catalyst do not appear in the literature. N.D.Zelinskiy and G.S.Pavlov (Ref 1) began working on this problem by passing menthene vapor at 175 - 180° into a stream of carbonic acid under palladium

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asbestos and thus producing menthane and cymene. More importantly in this direction was the research on cyclohexene, which is a derivative of menthene (Refs 2-5). The experiments on the isomerization of cyclohexene with an aluminium silicate catalyst were carried out at 320-450°, although the isostasis theory claims that the maximum possible temperature to which the earth oil could have been exposed in being formed was not over 250°. For this reason the isomerization of the Δ^3-p-menthene was carried out at 170-230° in the work reported in this paper. "Gumbrine" clay was used as the catalyst. In doing so it was shown that hydrogen was dispersed more around the ring, and that the ring contracted. The result of the isomerization was the formation of a mixture of hydrocarbons, from which 1,2-dimethyl-3-isopropylcyclopentane and p-menthane were separated. In the isomerization polymers formed (34-35%) which were dimers of terpinene. Details appear in the experimental section. There are 8 references, 7 of which are Soviet.

Transformation of Δ^3-p-Menthene on the "Gumbrine"Clay SOV/79-28-8-59/66

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

SUBMITTED: June 22, 1957

Card 3/3

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S/191/60/000/010/004/017
B004/B060

15811D

AUTHORS: Skrylova, L. V., Molotkov, R. V., Gonor, E. S., Kazanskaya, V. F., Gvirts, E. M.

TITLE: Polyglycidyl Cyanurates as Heat-resistant Epoxy Resins

PERIODICAL: Plasticheskiye massy, 1960, No. 10, pp. 13-14

TEXT: The authors based on the U.S. Patent No. 2,809,942 to synthesize an epoxy resin from cyanuric acid and epichloro hydrin (эц (ETs-Resin)). [Abstracter's Note: The synthesis is not described]. Number of epoxy groups (29-32%), content of inorganically bound chlorine (0.04-0.06%), and content of organically bound chlorine (5-6%) were determined. ETs resin was polymerized either with maleic anhydride or phthalic anhydride. Its thermomechanical properties were examined and compared with those of ЭД-6(ED-6) resin (a dian resin). A better heat resistance (up to 170-175°C) and a smaller dielectricity loss were established at high temperatures, as compared with ED-6. There are 2 figures and 3 non-Soviet references.

Card 1/1

L 12583-63 EWP(j)/EWT(m)/BDS AFFTC/ASD Pc-4 RM
ACCESSION NR: AP3003303 S/0191/63/000/007/0017/0020

AUTHORS: Tsirkin, M. Z.; Molotkov, R. V.; Kazanskaya, V. I. 60

TITLE: Tetrahydrophthalic and methyltetrahydrophthalic anhydrides as epoxy resin curing agent 15 15

SOURCE: Plasticheskiye massy, no. 7, 1963, 17-20

TOPIC TAGS: tetrahydrophthalic anhydride, methyltetrahydrophthalic anhydride, epoxy resin, maleic anhydride, plastic curing agent

ABSTRACT: In order to obtain a less toxic and less temperature-sensitive epoxy resin curing agent, as compared to maleic and phtalic anhydrides, new types of curing agents were synthesized and tested. The synthesized curing agents are Cis-1,2,3,6-tetrahydrophthalic anhydride and Cis-4-methyl-a,2,3,6-tetrahydrophthalic anhydride. The physico-chemical properties and dielectric properties of the compounds cured with the above anhydrides are close to the properties of the compounds cured with maleic and phthalic anhydrides. Methyltetrahydrophthalic anhydride possesses better properties than tetrahydrophthalic anhydride. It also has an advantage over maleic and phthalic anhydrides since its resins have a longer life span, is less volatile than maleic anhydride, and has a much lower

Card 1/2

L 12583-63
ACCESSION NR: AP3003303

melting temperature than phthalic and tetrahydrophthalic anhydrides. Orig. art. has: 6 tables and 2 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 30Jul63 ENCL: 00

SUB CODE: ML NO REF SOV: 004 OTHER: 006

Card 2/2

SOURCE: Vysokomolekulyarnyye soyedineniya, v. , no. 10, [illegible]

TOPIC TAGS: vinylhydroquinone dibenzoate, acrylic acid, methacrylic acid, [illegible] copolymerization, polyacrylic acid, polymer [illegible] azoisobutyronitrile

ABSTRACT: The copolymerization of vinylhydroquinone dibenzoate (VHD) with acrylic (AC) and methacrylic acid (MAC) was [illegible] of azoisobutyronitrile [illegible] method of Mayo and Lewis. The values of [illegible] to be 0.44 ± 0.13 and 0.95 ± 0.002, respectively. For the MAC-VHD pair, they

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L 33945-65
ACCESSION NR: AP5047205

were 1.9[illegible] ± 0.23 and 0.91 ± 0.25, respectively. The specific activity (Q) of [illegible] in the copolymerization with IC was 1.3, polarity (e) 0.0[illegible], while for VRD with MAC Q was 1.80 and e was 0.04. [illegible] the specific activity of VRD is of the same [illegible] magnitude as that of styrene. Orig. art. has: 2 formulas and [illegible]

ASSOCIATION: Leningradskiy tekhnologicheskiy institut im. Lensoveta (Leningrad technological institute)

SUBMITTED: [illegible] ENCL: 00

NO REF SOV: 001 OTHER: 007

Card 2/2

ACC NR: AP6021974 (A) SOURCE CODE: UR/0153/66/009/002/0314/0316

AUTHOR: Kazanskaya, V. F.; Klimova, O. M.; Tikhomirov, E. A.; Sokolov, G. I.

ORG: Plastics Technology Department, Leningrad Technological Institute im. Lensovet (Kafedra tekhnologii plasticheskikh mass, Leningradskiy tekhnologicheskiy institut)

TITLE: Copolymerization of vinylene carbonate with acrylonitrile in aqueous solutions

SOURCE: IVUZ. Khimiya i khimicheskaya tekhnologiya, v. 9, no. 2, 1966, 314-316

TOPIC TAGS: acrylonitrile, carbonate, copolymerization

ABSTRACT: Vinylene carbonate (VC) was copolymerized with acrylonitrile (AN) in 8% aqueous solutions at 20°C without adding any special initiators. All the copolymers were purified by reprecipitation from a dimethyl sulfoxide - acetone mixture, the degree of conversion was determined gravimetrically, and the copolymer composition was obtained from ultimate analysis. The relative activity constants of VC and AN were calculated from the dependence of the copolymer composition on the composition of the initial VC - AN mixture, and found to be: for VC, $r_1 = 0.086 \pm 0.051$; for AN, $r_2 = 3.280 \pm 0.117$. The specific activity Q for VC was 0.043, and the polarity factor e = -0.41. The intramolecular distribution of monomer units in the copolymers was calculated. The probability of finding two consecutive VC units is very small, even for an 80:20 ratio of AN to VC in the initial mixture; hence, the copolymer molecule

Card 1/2 UDC: 678.744.4-134.532

L 39070-66

ACC NR: AP6021974

is a chain consisting of large blocks of AN units which include single VC units. The VC-AN copolymers are similar in properties (solubility, capacity to form films or fibers) to polyacrylonitrile. Orig. art. has: 1 figure and 2 tables.

SUB CODE: 11/07/ SUBM DATE: 26Oct64/ ORIG REF: 004/ OTH REF: 005

Card 2/2 mlp

KAZANSKAYA, Ye.A.

Patents in knit goods manufacture (from "Wirkerei-und Strickerei-Technik," no.6, June 1960). Tekst.prom. 21 no.3:79 Mr '61. (MIRA 14:3)

(Germany,East—Knitting machines—Patents)

KAZANSKAYA, Ye.A.

Natural conditions and agricultural utilization of Chilik District, Alma-Ata Province. Vop.geog.Kaz.no.2:166-194 '57. (MIRA 10:7)
(Chilik District--Economic geography)

KAZANSKAYA, Ye.A.

Natural conditions and agricultural utilization of Dzhambul District in Alma-Ata Province. Trudy Sekt.geog.AN Kazakh.SSR no.3:114-137 '59. (MIRA 12:7)
(Dzhambul District (Alma-Ata Province)--Agriculture)

KAZANSKAYA, Ye.A.

Natural conditions and agricultural development of the Enbekshi-Kazakhskiy District of Alma-Ata Province. Trudy Sekt.geog.AN Kazakh.SSR no.4:73-96 '59. (MIRA 13:4)
(Enbekshi-Kazakhskiy District--Physical geography)

KAZANSKAYA, Ye.A.

Lake Baloye of Kokchetav Province. Trudy Sekt.geog. AN Kazakh. SSR no.5:152-164 '59. (MIRA 13:4)
(Baloye, Lake (Kokchetav Province)--Physical geography)

KAZANSKAYA, Ye.A.

Natural conditions and the agricultural development of Ili District, Alma-Ata Province. Trudy Sekt.geog.AN Kazakh. S.S.R. no.6:34-64 '60. (MIRA 13:7)
(Ili District--Physical geography)
(Ili District--Agriculture)

IZANSKAYA, Ye.A.

Basurman and Ashchikol' lakes in Kokchetav Province. Trudy Otd. geog. AN Kazakh. SSR no.7:209-217 '60. (MIRA 13:12)
(Kokchetav Province--Lakes)

KAZANSKAYA, Ye.A.; KANTSELYARISTOV, P.S.

Natural conditions and the agricultural development of Kaskelen District, Alma-Ata Province. Trudy otd. geog. AN Kazakh. SSR no.9:63-84 '62. (MIRA 15:6)
(Kaskelen District--Physical geography)
(Kaskelen District--Agricultural geography)

CHIGARKIN, A.V.; TRIFONOVA, T.M.; SMIRNOVA, R.Ya.; KAZANSKAYA, Ye.A.; VILESOVA, L.A., MUKHAMETZHANOV, S., kand. geologo-miner. nauk; GLADYSHEVA, Ye.N., kand. geogr. nauk; BAZARBAYEV, K.; KUZNETSOVA, Z.V.; ABDRAKHMANOV, S.; NAZARENKO, I.M., kand. geogr. nauk; YESAULENKO, P.I., kand. sel'khoz. nauk; LAVROVA, I.V., kand. ekonom. nauk; PAL'GOV, N.N., akademik, red.; CHEZGANOV, L., red.; NAGIBIN, P., tekhn. red.

[The Virgin Territory; brief studies on nature, population and economy]TSelinnyi krai; kratkie ocherki o prirode, naselenii i khoziaistve. Alma-Ata, Kazakhskoe gos. izd-vo, 1962. 188 p. (MIRA 15:9)

1. Otdel geografii Akademii nauk Kazakhskoy SSR (for all except Chezganov, Nagibin). 2. Akademiya nauk Kazakhskoy SSR (for Pal'gov).

(Virgin Territory—Economic geography)

KAZANSKAYA, T.A.

Pebble spits of Lake Alakol'. Trudy Otd. geog. AN Kazakh. SSR no.11:168-174 '65.

Lesser Araltobe Island in Lake Sasykkol'. Ibid.:175-178 (MIRA 18:8)

L 07473-07 EWT(1) SCTB DD/GD

ACC NR: AT6025375 SOURCE CODE: UR/0000/66/000/000/0081/0094

AUTHOR: Luk'yanova, L. D. and Kazanskaya, Ye. P. 30 B+1

ORG: none

TITLE: Problem of the functional significance of changes in cerebral bioelectric activity and its cerebral oxidative capacity during vibration

SOURCE: AN SSSR. Institut biologicheskoy fiziki. Vliyaniye faktorov kosmicheskogo poleta na funktsii tsentral'noy nervnoy sistemy (Effect of space flight factors on functions of the central nervous system). Moscow, Izd-vo nauka, 1966, 81-94

TOPIC TAGS: bioelectric phenomenon, cerebrum, biologic metabolism, biologic vibration effect, rat, EEG, oxygen consumption, human sense

ABSTRACT:

The oxygen metabolism of the brain as a function of its bioelectricity was studied in rats exposed to multiple vibration (0.4 mm, 70 cps, exposure duration 15 min). The method of polarographically determining oxygen tension in the brain was the same as used in previous studies (Luk'yanova, 1964). EEG's were taken and the tissue diffusion current was measured using bipolar platinum electrodes from the sensorimotor, visual, audio-cortical, and caudate nucleus regions.

Card 1/3 UDC: 612.014.482

L 07473-07

ACC NR: AT6025375

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721310019-7"

During vibration tests, rats were allowed to move freely in a container fixed to the surface of the vibration stand. Results of oxygen tests conducted in a container with a 98%-99% O_2 mixture are shown in graphs. Other graphs show: 1) the types of changes in EEG indices which occur during vibration; 2) dynamics of changes in O_2 tension as a function of vibration; 3) changes in cerebral bioelectricity of individual animals as a function of the number of exposures to vibration.

Experiments showed that during vibration, stable foci of excitability associated with an increased level of oxygen consumption develop. These shifts are accompanied by hypersynchronized, low-frequency, sinusoidal oscillations with a 1-cps frequency. This phase of increased oxygen consumption (or excitability phase) amplifies in time and is accompanied by marked changes in cerebral bioelectricity, suggesting that this may be a compensatory - adaptive period. Compensatory-adaptive mechanisms which lower the vibration sensitivity of animals occur as a result of decrease in excitation processes. However, the shift in oxygen metabolism was not always accompanied by changes in cerebral bioelectricity. Changes in cerebral bioelectricity during vibration occur in two phases; one phase is

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L 07473-67

ACC NR: AT6025375

characterized by general excitation which affects various cerebral areas, and the other phase in characterized by concentration of an excitation process in the sensorimotor and visual cortices. Orig. art. has: 8 figures. [W.A. No. 22; ATD Report 66-99]

SUB CODE: 06 / SUBM DATE: 01Feb66

Card 3/3

ACC NR: AT6036644 SOURCE CODE: UR/0000/66/000/000/0266/0268

AUTHOR: Luk'yanova, L. D.; Kazanskaya, Ye. P.; Kol'tsova, A. V.; Moyzerov, Ye. S.

ORG: none

TITLE: Investigation of the interdependence between the functional activity of the brain and brain oxygen metabolism during stimulation by vibration [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 266-268

TOPIC TAGS: vibration biologic effect, central nervous system, electroencephalography oxygen consumption

ABSTRACT:
After exposure to vibration (70 cps, 0.4 mm, 15 min) a phase character in changes of various indices of higher brain sections is observed. One min after exposure to vibration, slow (1--3 cps), high voltage (500--700 v), hypersynchronized waves (HSW) were noted in the EEG's of animals. These were especially pronounced in the sensorimotor and visual cortices and coincided with a sharp increase in oxygen consumption in all sections of the brain. Repeated exposure caused a stage of HSW generalization in all brain sections subsequent to their concentration. When oxygen consumption in

animals decreased during stressor stimulation, HSW was either irregular or did not occur.

A sharp decrease in oxygen consumption, disappearance of HSW, and manifestations of burst activity were noted after vibration in all brain sections. At the same time, a complete disinhibition of conditioned and unconditioned reflexes was noted, which indicated the development of generalized inhibition in higher brain sections. A two-wave decrease in oxygen consumption after vibration coincided in time with a two-phased intensification of the superslow potential and an intensification of hourly fluctuations. All this indicated a sharp disruption in normal functional nervous system interrelationships during this period.

The multiple application of a vibration stimulus caused an intermediate state characterized by compensation, adaptation, and relative functional normalization. A decrease in brain metabolic shifts was noted especially after vibration. The latent period of HSW development steadily increased in the visual and sensorimotor sections of the brain. Dominating rhythm in the auditory cortex and motor region of the subcortex became low-frequency (8--12 oscillations/sec), synchronized rhythms superimposed on HSW. The number of "fluctuations" and burst activity after vibration decreased and

ACC NR: AT6036644

the duration of the normalization of these parameters was shortened after each exposure to vibration. Almost immediately after vibration, natural and conditioned reflexes were observed. The period of relative normalization during the repeated action of vibration alternated with a period of disrupted compensation and adaptation as reflected in a steady depression of rhythms during and after vibration. The level of conditioned reflexes decreased compared to normal levels and did not recover until 3 weeks after termination of the final exposure to vibration. The phase of increased oxygen consumption developing during vibration was not replaced by a decrease phase and continued to increase steadily. The artificial exclusion of peripheral impulsation by means of the partial exclusion of auditory and vestibular analyzers decreased the effect of vibration stimulus on the EEG of animals and brain metabolism. The establishment of compensatory adaptations took place without lowering the general functional level.

These data indicate that during multiple exposure to vibration, a general decrease in the excitability of the central nervous system to peripheral impulsation occurs as a result of the depletion of neural processes.

/W. A. No. 22; ATD Report 66-116/

SUB CODE: 06 / SUBM DATE: 00May66

Card 3/3

L 07472-67 EWT(1) SCTB DD/DD

ACC NR: AT6025377 SOURCE CODE: UR/0000/66/000/000/0105/0124

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721310019-7"

AUTHOR: Luk'yanova, L. D.; Kol'tsova, A. V.; Meyzerov, Ye. S.; Kazanskaya, Ye. P.

37

ORG: none

B+1

TITLE: Investigation of the connection between cerebral oxygen metabolism, its electrical activity, and the conditioned reflex activity of animals after vibration

SOURCE: AN SSSR. Institut biologicheskoy fiziki. Vliyaniye faktorov kosmicheskogo poleta na funktsii tsentral'noy nervnoy sistem (Effect of space flight factors on functions of the central nervous system.) Moscow, Izd-vo Nauka, 1966, 105-124

TOPIC TAGS: bioelectric phenomenon, rat, cerebrum, biologic vibration effect, conditioned reflex, oxygen consumption, eeg, biologic metabolism, reflex activity

ABSTRACT:

Methods used in previous studies by the author were applied to this expanded study of the effects of vibration (70 cps, 0.4 mm, 15-min exposure duration, up to 30 exposures) on the cerebral activity of rats. As in a previous study, vibration caused phased shifts in some indices of the functional condition of the brain.

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UDC: 612.014.482

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ACC NR: AT6025377

The first phase, which occurred after 1--4 exposures, was characterized by the development of general inhibition in the form of decreased cerebral oxygen consumption, corresponding EEG changes, intensification of very slow oscillations of the potential, and complete elimination of conditioned reflexes.

The second phase, which occurred after the fourth exposure, was marked by the development of compensatory and adaptive processes and relative functional normalization. Diminished changes in oxygen metabolism were observed, together with corresponding EEG indexes and the recovery of natural conditioned reflexes followed by the development of artificial reflexes (those induced by experimental parameters).

The third phase, occurring after 20--25 exposures, was characterized by a general decrease in the functional activity of upper cerebral centers. Oxygen consumption decreased, bioelectrical activity during and after vibration was depressed, and conditioned reflex activity was maintained at a low level long after the last exposure. Orig. art. has: 10 figures and 1 table.

[W.A. No. 22; ATD Report 66-99]

SUB CODE: 06 / SUBM DATE: 01Feb66

Card 2/2 gd

L 07485-67 EWT(1) SCTB DD/GD

ACC NR: AT6025378 SOURCE CODE: UR/0000/66/000/000/0125/0128

AUTHOR: Kazanskaya, Ye. P.; Luk'yanova, L. D.

30
B+1

ORG: none

TITLE: Changes in respiration during vibration

SOURCE: AN SSSR. Institut biologicheskoy fiziki. Vliyaniye faktorov kosmicheskogo poleta na funktsii tsentral'noy nervnoy sistemy (Effect of space flight factors on functions of the central nervous system). Moscow, Izd-vo Nauka, 1966, 125-128

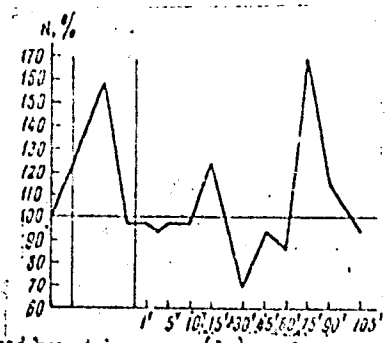
TOPIC TAGS: biologic respiration, biologic vibration effect, rat, biosensor, ECG, biologic metabolism / EKPSCh-3ECG

ABSTRACT:
Respiratory changes in response to vibration were studied using male Wistar rats weighing 200-250 g. The animals were subjected to 15 min of vibration (frequency 70 cps, amplitude 0.4 mm). A special sensor attached to the rat's ribcage and an EKPSCh-3 electrocardiograph were used to record respiration. Graphs of respiratory movements for individual rats show the lack of uniformity in respiration under the influence of vibration. Although in the first vibration period a general tendency to increase in respiratory frequency was observed, reactions in

Card 1/3 UDC: 612.014.482

ACC NR: AT6025378

the second respiration phase and in the postvibration period varied with individual rats (see Figs. 1 and 2).



(a) vibration (b) after-vibration

Fig. 1. Changes in the frequency of respiratory movements in rat No. 1 during and after vibration. a - vibration; b - after vibration.

On the abscissa -- time from the beginning of vibration in minutes. On the ordinate -- frequency of respiratory movements, expressed in % of the average initial level. [These designations apply to both figures]

Card 2/3

L 07485-67
ACC NR: AT6025378

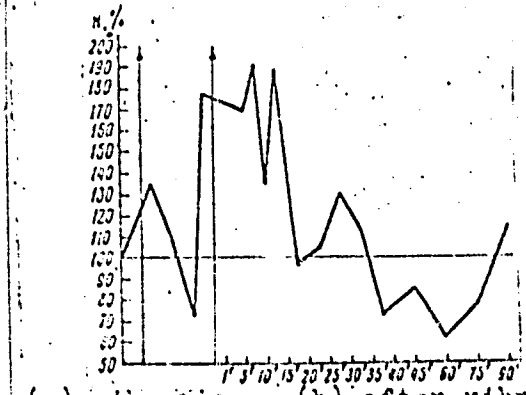


Fig. 2. Changes in the frequency of respiratory movements in rat # 3 during and after vibration.

(a) vibration (b) after vibration

It was further determined that changes in oxidative metabolism occurring during vibration are not related to changes observed in external respiration. Orig. art. has: 3 figures. [W.A. No. 22; ATD Report 66-99]

SUB CODE: 06 / SUBM DATE: 01Feb66

Card 3/3

KAZANSKAYA, Yu.A. (Moskva)

Public medicine in pre-Revolutionary Russia in the control of epidemics. Sov.med. 21 no.11:145-150 N '57. (MIRA 11:3)
(COMMUNICABLE DISEASES, prev. and control in Russia, hist.)

KAZANSKAYA, Yu. A.: Master Med Sci (diss) -- "The history of the social struggle against epidemics in Russia (1861-1905). Material on the history of Russian epidemiology". Moscow, 1958. 16 pp (Min Health USSR, Central Inst for the Advanced Training of Physicians), 200 copies (KL, No 11, 1959, 122)

ZABLUDOVSKIY, P.Ye., dotsent; KAZANSKAYA, Yu.A. (Moskva)

Politically active Russian physicians as characterized by the Secret Political Police Department. Trudy Perm. gos. med. inst. 43:193-198 '63. (MIRA 17:6)

KAZANSKAYA, Ye. I.

"The Problem of the Etiopathogenesis and Early Diagnosis of Thrombophlebitic Splenomegaly in Children," Vop. ped. i okhran mater i det., 16, No.5, 1948

Chair of Faculty Pediatric, Leningrad Pediatric Inst.

KAZANSKAYA, Ye. I.

"The Problem of the Diagnosis of Abdominal Diseases in Children under Polyclinic Conditions," Vop. ped. i okhran. mater. i det., 16, No.6, 1948

CA KAZANSKAYA, Ye. I.

IIA

Enzyme systems in the blood and their reactions in toxic and septic conditions. E. I. Kazanskaya and N. E. Ilinova (Leningrad Pediat. Inst.). *Voprosy Pediat.* i *Okhrany Materinstva i Detstva* **18**, No. 2, 27–30(1950). Both the level of the enzymes and the type of reaction response to parenteral administration of milk are different in septic and toxic conditions. In the former, low levels of lipase and catalase are characteristic, with a considerable enhancement of lipolysis on irritation by milk administration. In toxic conditions a higher catalase with less lowering of lipase is found, and the milk reaction is generally neg. In children with combined conditions lipase and amylase are low, catalase is rather high, and the milk reaction is variable. G. M. Kosolapoff

KAZANSKI, N.

New Graduation Standards for Radio Amateur Sportsmen. "RADIO" Ministry of Communication, #7-8:1:Aug. 55

KAZANSKI, M.M.

The Gulf Stream. Priroda Bulg 13 no.4:110-111 Jl-Ag '64.

KAZANSKI, N.

North Pole, the large land. p. 14.

RADIO. Vol. 5, no. 2, 1956

Sofiia, Bulgaria

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 6, No. 1, January 1957

KAZANSKIY, A.

KAZANSKIY, A., lektor politchasti.

Reliable aids for seamen and scientists in the Arctic. Mor. flot 17 no.12:8-9 D '57. (MIRA 11:1)

1. Polyarnaya aviatsiya Glavsevmorputi Ministerstva morskogo flota. (Arctic regions--Navigation) (Aeronautics)

KAZANSKIY, A., instruktor politchasti polyarnoy aviatsii, YEMEL'YANOV, A., instruktor politchasti polyarnoy aviatsii.

Initiators of flights without navigators. Mor. flot 18 no.5:22-23 My '58. (MIRA 11:6)
(Navigation (Aeronautics)) (Arctic regions--Aerial exploration)

VADIVASOV, Dmitriy Georgiyevich; KAZANSKIY, A., red.; LUKASHEVICH, V., tekhn.red.

[Investigating the effect of conditions of carrying out the electrometallization process on the properties of metal coatings (in connection with the reconditioning of worn tractor and automobile parts]. Issledovanie vliianiia uslovii protsessa elektrometallizatsii na svoistva metallicheskikh pokrytii (V sviazi s vosstanovleniem iznoshennykh traktornykh i avtomobil'nykh detalei). Saratovskoe knizh.izd-vo, 1958. 157 p. (Saratov. Institut mekhanizatsii sel'skogo khoziaistva. Trudy, no.15). (MIRA 13:7)
(Agricultural machinery--Maintenance and repair)
(Metal spraying)

KAZANSKIY, A., inzh.-polkovnik; AKSENOV, Ya., inzh.-podpolkovnik; TRUSHIN, A., inzh.

Mobile tubular steam boiler. Tyl i snab. Sov. Voor. Sil 21 no.10:88-89 O '61. (MIRA 15:1)

(Boilers)

SEVROV, Konstantin Pavlovich, kand. tekhn. nauk, dots.;
KAZANSKIY, A., red.

[Performance of mixers and the method of calculating their basic parameters for the mixing of mineral mixes with organic binding materials] Rabota smesitelei i metodika rascheta ikh osnovnykh parametrov pri peremeshivanii mineral'nykh smesei s organicheskimi vyazhushchimi materialami. Saratov, Saratovskoe knizhnoe izd-vo, 1962. 177 p. (MIRA 18:1)

SUKHARENKO, V.I.; KAZANSKIY, A.A.

How different types of wheels or tracks affect the ability of self-propelled grain combines to move in terrain. Trakt. i sel'khozmash. no.10:20-22 O '58. (MIRA 11:10)

1. TSentral'naya mashinoispytatel'naya stantsiya.
(Tractors)

KAZANSKIY, A.A. (Kazan')

Experience with operating a lime-cation water softening unit.
Vod. i san. tekh. no.7:11-14 Jl '56. (MLRA 9:10)

(Water softening)

KAZANSKIY, A.A. (Kazan').

Investigate water-bearing [illegible] when boring artesian wells.
Vod. i san. tekh. no.3:32-34 Mr '57. (MLRA 10:6)
(Artesian wells)

HIGH-ENERGY NUCLEAR PHYSICS: PARTICLE BOMBARDMENT OF NUCLEI

"The Passage of Scattered -Rays Through Water," by V..I. Kukhtevich, A. A. Kazanskiy, Sh. S. Nikolayshvili, and S. G. Tsypin, Atomnaya Energiya, No 2, February 1958, pp 138-143.

Measurements were made of the attenuation of the dose of scattered quanta from Au^{198}, Vo^{60}, and Na^{24} sources, as functions of the distance abetween the source and detector at various angles of collimation, which excluded the possibility of a primary -ray entering into the detector. Measurements were carried out at distances from 3 to 4 to 8 to 10 mean free paths of the -quanta. The collimation angles varied from 30 to 80 degrees. The experimental data obtained are compared with the results of theoretical calcualtions, based on an assumption that makes it pobsible to reduce the problem to the calculation of lthe triple integral, instead of a direct solution of the kinetic equation. Satisfacatory agreement between the experimental and theoretical results is obtained.

MIKHEYEV, N.I.; KAZANSKIY, A.A.; SOKOLOV, G.I.

Automatic-intake device with Laval's nozzle for centrifugal pumps.
Mash. i neft. obor. no.7:8-10 '63. (MIRA 17:1)

GNFZDILOV, V.G., polkovnik meditsinskoy sluzhby; GUDZIY, M.K., polkovnik peditsinskoy sluzhby; KAZANSKIY, A.A., polkovnik meditsinskoy zluzhby; KYABOV, M.F., polkovnik meditsinskoy sluzhby

Encyclopedic dictionary of military medicine (conclusion). Voen.-med. zhur. no.5:46-55 My '50. (MLRA 9:9)
(MEDICINE, MILITARY--DICTIONARIES)

KAZANSKIY, A.A.

Role of the lymphatic system in pathogenesis of acute suppurative pleurisy. Khirurgiia, Moskva No.12:37-42 Dec 51. (CLML 21:4)

1. Of the Military Medical Academy imeni S.M. Kirov, Leningrad.

KAZANSKIY, A.A.

Experience in using metal water towers in severe climatic conditions. Vod. i san. tekh. no.4:17-18 Jl'55. (MLRA 8:12)
(Water towers)

POPOV, V.I., prof. (Leningrad, ul. Gogolya, d. 19 kv. 7).,KAZANSKIY, A.A.,dots.

V.A. Oppel's theories on the treatment of war wounds at different evacuation stages. Vest.khir. 81 no.9:50-56 S'58 (MIRA 11:11)

1. Iz kafedry obshchey khirurgii (nach. - prof. V.I. Popov) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.
(WOUNDS AND INJURIES,
war wds., ther. (Rus))

TURBULENCE IN SURFACE LAYER INVERSIONS, A. D. Kazanskiĭ and A. S. Monin, Inst. of Geophysics [illegible]

[illegible] for the wind velocity and temperature distribution at a given altitude, as well as for the asymptotic appearance of these functions for small and large altitudes. With the aid of the turbulent energy balance equation, interpolation equations are derived for universal functions with which are calculated the nomograms to determine the turbulence process based on gradient measurements [illegible]

KAZANSKIY, A.B.; MOMIN, A.S.

Shape of smoke jets. Izv.AN SSSR.Ser.geofiz. no.8:1020-1033 Ag '57. (MLRA 10:8)

1.Akademiya nauk SSSR, Institut fiziki atmosfery.
(Smoke) (Jets--Fluid dynamics)

SOV-49-58-6-4/12

AUTHORS: Kazanskiy, A. B. and Monin, A. S.

TITLE: Turbulence in the Surface Layers of the Atmosphere and in the Presence of Unstable Stratification (O turbulentnom rezhime v prizemnom sloye vozdukha pri neustoychivoy stratifikatsii)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 6, pp 741-751 (USSR)

ABSTRACT: It is important in many practical cases to determine the basic properties of turbulence from changes in gradients (e.g. of air temperature). A. M. Obukhov and A. S. Monin have put forward a suitable representation (Refs.1-5) based on similarity theory. In their theory a stationary turbulent regime is represented by the following parameters: v_* - the frictional velocity; q - the turbulent heat flow (or $q/c_p\rho$, where c_p and ρ are the specific heat and air density, which can be considered standard) and g/T_0, where g is the acceleration due to gravity and T_0 is the average air temperature in the surface layers. From these parameters, a scale length, velocity and temperature can be defined:

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$$L = -\frac{v_*^3}{\varkappa \frac{g}{T_0}\frac{q}{c_p\rho}} \quad , \quad V = \frac{v_*}{\varkappa} \quad , \quad T_* = -\frac{1}{\varkappa v_*}\frac{q}{\alpha c_p \rho} \qquad (1)$$

where $\varkappa$ is the Karman constant; $\alpha = K_T/K$ is a universal dimensionless constant; K_T is the turbulent heat conductivity coefficient and K is the turbulent viscosity coefficient. For wind velocity v and air temperature T as functions of height z and thermal stratification of the atmosphere, Eqs.(2) and (3) result. Where z_0 is the roughness height, $f(\xi)$ is a universal function with an undefined constant term (since it only enters as a difference). Eqs.(2) and (3) give Eq.(4) for the Richardson number. For small values of the argument, $f(\xi)$ has the form

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Eq.(5). The existence of a universal function $f(\xi)$ was confirmed by experimental data (Ref.4).(A value $\beta \simeq 5$ was obtained). The form of $f(\xi)$ in cases of stable stratification was studied in (Ref.6). This article studies the form of $f(\xi)$ in unstable stratifications

($q > 0$ and, hence, $L < 0$ and $\xi = z/L < 0$)

1. Free Convection. From Refs.1-5, it follows that consideration of the asymptotic form of the wind velocity profile at great heights in an unstable stratification (i.e. determination of the asymptotic form of $f(\xi)$ for large negative values of ξ) is equivalent to consideration with fixed z and $q > 0$, $v_* \to 0$. Thus in an unstable stratification, the turbulent regime at great heights approximates to that of purely thermal turbulence without wind (i.e. free convection). For free convection, $v_* = 0$ and the turbulence is characterised by the parameters g/T_0, $q/c_p\rho$ (turbulence obtains energy only from the thermal stratification instability energy). It is impossible to form a scale length from

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these parameters. Thus this case is characterized by combinations of $q/c_p\rho$, g/T_0 and z . In particular, Eq.(6) is obtained for $T(z)$: where c is a universal dimensionless constant (>0); T_∞ is a constant with dimensions of temperature and the factor $\frac{1}{\alpha^{4/3}}$ is introduced for convenience in future calculation Eq.(6) can be rewritten in the form shown:

$$\frac{T(z)-T(z_0)}{T_*} = c\left(\frac{z}{L}\right)^{-1/3} - c\left(\frac{z_0}{L}\right)^{-1/3}$$

which, on comparison with Eq.(3), gives the asymptotic form Eq.(7) for $f(\xi)$ as $\xi \to -\infty$. Eq.(6) shows that, as the height increases; the temperature distribution approaches the isothermal. This is natural since, for an unstable

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stratification, the turbulent elements reach a great size at large heights, producing mixing which levels out the temperature profile. Differentiating Eq.(6) with respect to z gives Eq.(8), which gives Eq.(9) for the turbulent heat flow, q , in free convection. It follows from Eq.(8), that, in such conditions, the turbulence coefficient (Eq.10) grows rapidly with height, due to the increase in the turbulent elements and the increase in the intensity of the pulsations (proportional to $z^{1/3}$). The turbulence scale length, l , is distinguished from z only by a numerical factor, which is denoted by $\varkappa\lambda_\infty$. Putting $l = \varkappa\lambda_\infty z$ and assuming that in free convection $l=\varkappa z$, we have $\lambda_\infty > 1$. The scheme outlined above corresponds to that suggested by A. A. Skvortsov (Ref.7), except that he uses a discrete spectrum of turbulent scale lengths, whereas the authors use a continuous spectrum. To determine the turbulent heat flow q and the exchange coefficient K in free convection, it is sufficient to measure the difference in temperature at two heights. Suppose these are $z = 2H$ and $z = H/2$ (where $H \sim 1$-2 m). Put $\Delta T = T(2H) - T(H/2)$. Then from

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Eq.(5) an expression for ΔT is obtained which gives Eq.(11) for q . Thus q is differentiated from $H^{\frac{1}{2}}|\Delta T|^{\frac{3}{2}}$ only by a constant, universal (but not dimensionless) factor. Substituting in Eq.(10) $z = H$ and the value of q from Eq.(11), Eq.(12) is obtained. Hence K(H) is distinguished from $H^{\frac{3}{2}}|\Delta T|^{\frac{1}{2}}$ only by a constant universal factor. Taking $\kappa = 0.43$; $\alpha = 0.8$; $c = 1$ from the experimental data given below, and putting $T_0 = 300^{\circ}C$ (ΔT in $^{\circ}C$, H in metres) Eqs.(13) are obtained.

2. The general case of an unstable stratification. In considering the form of $f(\xi)$ in this case, it is convenient to consider the function F(Ri) - Eq.(14) - introduced by Priestley (Ref.9) and constructed on the basis of measurements made by Swinbank (Ref.10). These results were confirmed by

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Taylor (Ref.11) and Priestley (Ref.12). Using Eqs.(1) and (3), $F(Ri)$ and $f(\xi)$ are found to be connected by Eq.(15). Formula (4) and (5) indicate that for small $|\xi|$, $f'(\xi) \approx \approx 1/\xi$ and $Ri \approx \xi/\alpha$. If the asymptotic formula (7) for $f(\xi)$ at large $|\xi|$, Eq.(16) is obtained for $F(Ri)$ at small and large $|Ri|$. The first of these asymptotic formulae corresponds to a logarithmic law for the wind velocity and temperature profiles (i.e. acts at a fixed $L<0$ for small heights z). If function $F(Ri)$ is plotted on a graph with $\lg|Ri|$ as the abscissa and $\lg F(Ri)$ as the ordinate, the asymptotes of $F(Ri)$ in terms of Eq.(16) will be two intersecting straight lines: for small $|Ri|$ with slope -1/2 and for large $|Ri|$ parallel to the axis with an ordinate F_∞. $F(Ri)$ must decrease monotonically as $|Ri|$ increases since $F(Ri) \geq F_\infty$. The asymptotes of $F(Ri)$ intersect at a point given by Eq.(17). Empirical data indicate that $|Ri^*|$ is of the order of several hundredths; but the empirical graph given by Obukhov-Monin indicates that $f(\xi)$ at e.g.

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$|Ri| < \frac{1}{10}$ is practically given by a logarithmic law. Hence, for $|Ri| < |\overset{*}{Ri}|$, $F(Ri)$ practically coincides with its asymptote $F(Ri) = \varkappa^2 \alpha |Ri|^{\frac{1}{2}}$. If $|Ri| > |\overset{*}{Ri}|$, it follows further, that $F(Ri) = F_\infty$, i.e. practically coincides with the second asymptote. Hence, the transitional zone between the two regions must be negligible. If: $\overset{*}{\zeta}$ (<0) is the root of $\frac{1}{f'(\overset{*}{\zeta})} = \alpha \overset{*}{Ri}$, it can be said that, for unstable stratification with $z < \overset{*}{\zeta} L$, the profiles of wind velocity and temperature are described by a logarithmic law and with $z > \overset{*}{\zeta} L$, the mixing mechanism is almost the same as in free convection. Neglecting any transitional region between the two limiting conditions and changing from

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F(Ri) to $f(\xi)$ (considered continuous), the interpolation formulae (Eq.18) are put forward. Fig.1 gives an empirical graph of F(Ri) according to Taylor (Ref.11). The mean square deviation (indicated by the lines) is quite large. (Priestley stated the pulsational method of measuring the turbulent heat flow was insufficiently sensitive at high frequencies). Nevertheless, the points define the two regions quite accurately. The parameters on the graph are $|Ri^*|$ and F_∞ from which, knowing $\varkappa$, the constants α and c can be calculated from Eqs.(16) and (17). Priestley (Ref.9) obtained the value 0.68 for F_∞ (which he considered too low), whilst Taylor obtained 0.79 $\pm$ 0.04. In (Ref.12), Priestley estimated a value 0.8 - 1.0. The value of $|Ri^*|$ lies in the interval 0.025-0.04. The authors find a value for α of 0.82 (the accuracy being small, however) and they use values $c = 1$, $\alpha = 0.8$, $\varkappa = 0.43$, which gives results in Eq.(18) agreeing with the empirical graph for $f(\xi)$ of Obukhov and Monin. Calculation of the straight lines in the method outlined above was carried out by several authors before

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Priestley. Thus Pasquill (Ref.13) published graphs of the function (19), where E is the evaporation rate, χ the absolute humidity and α_1 the ratio of the exchange and motion coefficients. Pasquill's measurements were repeated by Rider (Ref.14), who also drew graphs of the function (20). Values for the turbulent frictional stress, $\tau = \rho v^2$, were determined by Rider, using a direct, dynamometric method, first suggested by Sheppard. Finally, Deacon (Ref. 15) drew graphs of the function (21), where v_* is determined by a pulsational method. (The functions $F_1(Ri) - F_4(Ri)$ are connected with Priestley's function as shown). Although all this experimental material could be collated it is in such poor agreement that further experimental data is required. Functions $F_3(Ri)$ and $F_4(Ri)$ are particularly suitable for determing $\varkappa - F_3(0) = \varkappa^2$; $F_4(0) = \varkappa$. The value $\varkappa = 0.4$ seems to be in good agreement

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...th the experimental data.

3. Interpretation of gradient measurements. To determine L, v_* and q, a method similar to that in Ref.6, for stable stratification, is used. Suppose $v(H)$ and $\Delta T = T(2H) - T(H/2)$ have been measured and z_o is known. (The latter is normally obtained by extrapolation to zero of the velocity of the wind velocity profile). The Richardson number (Eq.22) is first calculated from the gradient measurements. Putting $L_1 = L/H$ and using Eqs.(1)-(3), Eq.(22) can be written in the form Eq.(23). Substituting Eq.(18) in this equation, L_1 can be determined from B and ζ_o. Fig.2 gives a nomogram for determining L_1 from B and ζ_o - as derived from Eqs.(23) and (18). For large negative values of L_1

$$B \sim \frac{1}{L_1} \frac{\ln 4}{(\ln \zeta_o)^2}$$; for small negative values

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$B \to -\frac{2^{1/3} - 2^{-1/3}}{c(1 - \zeta_0^{-1/3})^2} L_1^{-4/3}$. In determining the frictional velocity v_*, Eq.(24) (derived from Eq.2) can be used, and a nomogram for v_*/v can be derived from B and ζ_0, using Eq.(18) (Fig.3). For large negative values of L $\frac{v_*}{v} \sim \frac{\kappa}{\ln 1/\zeta_0}$ and for small negative values $\frac{v_*}{v} \sim \frac{\kappa}{c(1 - \zeta_0^{1/3})} L^{-1/3}$. Using Eqs.(1)-(3), Eq.(25) is obtained for the turbulent heat flow. Fig.4 gives the

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nomogram for $q/\alpha v \Delta T$. For heights of measurement higher than the dynamical turbulence layer, Eq.(13) can be used for determining q and K if the condition Eq.(26) holds. Values of Eq.(26) are given in a table. Swinbank's results confirm Eq.(13) and the numerical coefficient (0.14) therein used. Fig.5 gives a nomogram for calculating Eq.(13) (the abscissa is $|\Delta T|$ in degrees and the ordinates, q in cal/cm^2/min and K m^2/sec). The continuous line represents measurements of q at H = 1 and 2 m, and the dotted line represents K(H) at these heights.

4. Scale of turbulence. As shown above $l = \kappa\lambda_\infty z$. According to similarity theory, in the case considered, $l = \kappa\lambda(3/L)z$ (where $\lambda(0) = 1$ and $\lambda(-\infty) = \lambda_\infty$) . To determine $\lambda(\xi)$ and in particular λ_∞ , Eq.(27) (used in Refs.1, 2 and 6) is employed. Deleting K , using Eqs.(1)-(3) and substituting $l = \kappa\lambda(\xi)z$, gives Eq.(28). For small negative values of ξ , it is found from Eq.(5) with $\beta = 0.$

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that:

$$l = \kappa z\left[1 - \frac{7}{20}\frac{z}{L} + O\left(\frac{z^2}{L^2}\right)\right] .$$

For large negative values of ξ, it is found from Eqs.(7) and (28) that:

$$\lambda(\xi) = \left(\frac{3}{c}\right)^{3/4}\left(1 + \frac{c}{3}\xi^{-4/3}\right)^{-1/4} .$$

Thus $\lambda_{\infty} = \left(\frac{3}{c}\right)^{3/4}$. If c is close to unity λ_{∞} is close to $1/\kappa$ and, hence, in free convection, l is asymptotically equal to z. Substituting in Eq.(28) :

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$$f'(\xi) = \begin{cases} \dfrac{1+\beta\xi}{\xi} & (\xi_1 \leqslant \xi < 0) \\ -\dfrac{c}{3}\xi^{-4/3} & (\xi \leqslant \xi_1) \end{cases}$$

where ξ_1 is determined from the fact that $f'(\xi)$ must be continuous), Fig.6 is obtained for the function $l/z = \varkappa\lambda(\xi)$. This represents the growth of turbulent elements with height for unstable stratification. There are 6 figures, 1 table and 15 references, 8 of which are Soviet and 7 English.

Inst of Physics of the Atmosphere AS USSR

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S/049/60/000/01/024/027
E201/E191

AUTHORS: Kazanskiy, A.B., and Monin, A.S.

TITLE: Turbulence Above the Lowest Layer of the Atmosphere

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No 1, pp 165-168

TEXT: The authors discuss the stationary turbulence in the lower layers of the atmosphere, assuming uniformity along the horizontal direction. The problem was to find the distribution with height of the wind velocity components, temperature and some characteristics of turbulence, especially the turbulence (mixing) coefficient K. The analysis was based on the experimental material obtained by an American aerophysical expedition in 1953 reported in a book by Lettau and Davidson (Ref 3). In spite of the very careful organization of measurements during this expedition, individual results were not very reliable. Consequently the authors limit themselves to several typical cases (Figs 1-2). Among the results reported are the following conclusions: 1) Coriolis forces reduce the turbulence (mixing) coefficient, i.e. they tend to stabilize turbulence; and 2) under turbulent conditions the changes of the wind direction in the lowest hundred metres of the atmosphere amount

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KAZANSKIY, A.B.

Heat balance of the open surface of ice on Fedchenko Glacier.
Izv. AN SSSR. Ser. geofiz. no.12:1883-1886 D '60. (MIRA 13:12)

1. Institut fiziki atmosfery AN SSSR.
(Fedchenko Glacier--Temperature)

KAZANSKIY, A.B.

Heat balance on the surface of the Fedchenko glacier. Dokl.AN SSSR 134 no.4:806-809 O '60. (MIRA 13:9)

1. Institut fiziki atmosfery Akademii nauk SSSR. Predstavleno akad. A.A. Grigor'yevym.
(Glaciological research)

KAZANSKIY, A.B.; LEVIN, L.M.

Local capture coefficient variation across the plate. Trudy Vysokogor. geofiz. inst. AN SSSR 2:68-71 '61. (MIRA 14:12)
(Cloud physics)
(Meteorological instruments)

KAZANSKIY, A.B.; MONIN, A.S.

Dynamic interaction of the atmosphere and the earth's surface.
Izv.AN SSSR.Ser.geofiz. no.5:786-788 My '61. (MIRA 14:4)

1. Akademiya nauk SSSR, Institut fiziki atmosfery.
(Atmospheric turbulence) (Friction)

S/169/62/000/001/045/083
D228/D302

AUTHORS: Kazanskiy, A. B. and Kolesnikova, N. V.

TITLE: Heat balance of the valley surface of the R. Sel'dara near the tongue of the Fedchenko Glacier

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 21, abstract 1B153 (V sb. Glyatsiol. issledovaniya, no. 6, M., AN SSSR, 1961, 104-110)

TEXT: The authors present the results of observations, obtained by the glaciologic expedition of the Akademiya nauk Uzbekskoy SSR (Academy of Sciences, Uzbek SSR), for the heat balance of the ground surface and for wind, temperature, and humidity conditions. It is noted that a mountain valley circulation is observed in the summer months near the tongue of the Fedchenko Glacier. The amplitude of the mean-daily variation of the heat flow in the vicinity of the tongue of the Fedchenko Glacier has a considerable magnitude. Convection is observed in the morning and afternoon hours above the valley surface of the R. Sel'dara. At night the valley

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KAZANSKIY, A. B.

Dissertation defended for the degree of Candidate of Physicomathematical Sciences at the Institue of Atmospheric Physics 1962:

"Application of the Theory of the Near-Surface Layer of the Atmosphere to Several Problems of Glaciology."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

KAZANSKIY, A.B.; MONON, A.S.

Determination of the amount of movement, heat, and moisture in turbulent currents from gradient measurement data. Meteor. i gidrol. no.12:3-8 D '62. (MIRA 15:12)

1. Institut fiziki atmosfery AN SSSR.
(Atmospheric turbulence)

KAZANSKIY, A.B.

Exploration of the region of nourishment of the Medvezhii glacier. Geofiz. biul. no.15:52-60 '65. (MIRA 18:11)

L 1272-66 EWT(1)/FCC GW/WS-4

ACCESSION NR: AP5021874 UR/0362/65/001/008/0876/0879
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41
B

AUTHOR: Kazanskiy, A. B.

TITLE: Richardson critical number

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 1, no. 8, 1965, 876-879

TOPIC TAGS: atmospheric boundary layer, atmospheric stratification, atmospheric turbulence, atmospheric thermodynamics, atmospherics, asymptotic solution, approximation calculation, Richardson critical number

ABSTRACT: The Richardson number (Ri) was studied in the range 0-Ri_{cr} (critical) in a stably stratified surface boundary layer of the atmosphere. This work served to broaden earlier studies and included an analysis of accumulated data. The vertical gradients of the averages of the wind speed (u), temperature (T), and specific humidity of the air (Q) at a height z above the earth are expressed by

$$\frac{du}{dz} = \frac{v_*}{\varkappa z}\varphi(\xi),$$

$$\frac{dT}{dz} = -\frac{1}{\varkappa v_*}\frac{q}{c_p\rho}\frac{1}{z}\varphi_1(\xi),$$

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$$\frac{dQ}{ds} = -\frac{E}{\varkappa \rho v_*}\frac{1}{z}\varphi_2(\xi),$$

$$\xi = \frac{z}{L};\ L = -\frac{v_*^3}{(\varkappa g/T_0)\,q/c_p\rho},$$

where v_*, q, E are friction speed, vertical turbulent flows of heat and water vapor respectively; c_p and ρ are heat capacity and density of the air; $\varkappa$ is Kármán constant; g is acceleration of gravity; T_0 is average temperature of the atmospheric surface boundary layer in degrees Kelvin. The dimensionless ξ is related to Ri by

$$Ri = \frac{\varphi^2 \xi}{\alpha\varphi}\quad \left(\alpha = \frac{\varphi}{\varphi_1}\right).$$

The magnitude of the interval $0 < Ri < Ri_{cr}$ is evaluated, and the degree of approximation of the asymptotic formula $\varphi = 1 + \alpha\beta Ri$ (where β is a universal constant) is investigated. Since the last expression represents the first term of a power series, it is only valid for small Ri_{cr}. The Ri dependencies of three functions, established by several authorities, serve as the basis of analysis. These functions, when simplified by the extraction of the square root and the use of an approximation formula, are

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$$\left|\frac{q}{c_p\rho}\right|^{1/3}\left(\frac{du}{dz}\frac{dT}{dz}\right)^{-1/3}z^{-1} = \alpha^{1/3}\varkappa - \alpha^{2/3}\varkappa\beta\,\mathrm{Ri} = F_1,$$

$$\left|\frac{E}{\rho}\right|^{1/3}\left(\frac{du}{dz}\frac{dQ}{dz}\right)^{-1/3}z^{-1} = \alpha_1^{1/3}\varkappa - \alpha_1^{1/3}\alpha\varkappa\beta\,\mathrm{Ri} = F_2,$$

$$v_*\left(\frac{du}{dz}\right)^{-1}z^{-1} = \varkappa - \varkappa\alpha\beta\,\mathrm{Ri} = F_3.$$

Experimentally, $\alpha^{1/3} \approx \alpha_1^{1/3} \approx 1$. Although measurement difficulties produced a large scatter, the measurements were consistent with each other, and, when averaged, produced the results shown in Fig. 1 on the Enclosure. From this, with $\alpha = 0.43$ and $\varkappa = 0.8$, $\beta \approx 4$, and agrees with Webb's value of 4.5. The value of Ri_{cr} can be estimated by studying the derivatives of F. This work confirmed that the approximation formula (6) is accurate for a significant part of the interval $0\text{-}Ri_{cr}$, the error occurring only when $Ri \rightarrow Ri_{cr}$ (relatively unimportant). Orig. art. has: 6 figures and 23 formulas.

ASSOCIATION: Akademiya nauk SSSR, Institut geografii (Institute of Geography, Academy of Soiences SSSR)

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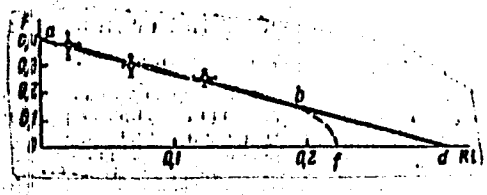

Fig. 1. Average dependency of F

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ACC NR: AT7001917 (N) SOURCE CODE: UR/3010/66/000/017/0025/0032

AUTHOR: Kazanskiy, A. B.

ORG: none

TITLE: Temperature field of glaciers

SOURCE: AN SSSR. Mezhduvedomstvennyy geofizicheskiy komitet. Geofizicheskiy byulleten', no. 17, 1966, 25-32

TOPIC TAGS: glacier, ice, temperature field

ABSTRACT: The author presents a system of equations by means of which it is possible to determine the temperature field of glaciers. This problem is of particular interest owing to the possibility of bottom thawing of glaciers which can lead to their catastrophic movement as a result of the formation of a lubricating layer. The equations presented in this article can be used for a theoretical prediction of the bottom temperatures in glaciers. They can also be applied in paleoglaciology in an attempt to ascertain climatic changes from the deviations of the temperature field of glaciers from that which should correspond to a given climate and to a given glacial regime. Orig. art. has: 26 formulas.

SUB CODE: 08/ SUBM DATE: none

Card 1/1

S/122/61/000/007/001/007
D209/D304

AUTHOR: Kazanskiy, A.M., Engineer

TITLE: Investigating large thrust bearings used as supporting bearings

PERIODICAL: Vestnik mashinostroyeniya, no. 7, 1961, 11-16

TEXT: The author describes a practical method of predicting the behavior of thrust bearings under given loading conditions. The present methods of calculating bearing performances are stated to be inapplicable to such exceptionally large bearings and some foreign authors have, therefore, developed theories taking into account the special characteristics involved. The maximum loading at the point of contact of the ball-bearings with the ball-race is determined and the resulting pressure at these points evaluated. In calculating these two quantities, it is assumed that the geometry of the ball-race remains unaffected by the applied forces and moments, and that the ball-bearings remain perfectly spherical. The result-

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ing forces (resolved radially and tangentially-), when equated, give for the maximum force at the point of contact of the ball-bearings with the grooves

$$P_{max} = \frac{F_a D + kM}{Dzi_a w_a \sin \alpha} + \frac{kF_r}{zi_r w_r \sin \alpha} \qquad (5)$$

where P_{max} - maximum pressure, F_a, F_r and M - the externally applied tangential radial force and moment, z - number of ball-bearings in one row, i_a, i_r - the number of rows of ball-bearings taking the loading, W_a, W_r - the number of contacts made with the ball race per row of ball-bearings; α - angle of contact of the ball-bearings with the ball race, and D - distance between centers. However, this expression does not lead to direct results, so the author uses Hertz' expression to relate the forces for loadings with a clearance < 0.2 mm. Hence

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$$P_{max} = \frac{4.5\ M}{Dz \cdot \sin\alpha} + \frac{F_a}{z \cdot \sin\alpha}, \qquad (6)$$

which does not include W_a and i_a which are difficult to determine and, therefore, avoided. The author then considers loading with clearances >0.2 mm. By finding the deformation at points A and B, and substituting,

$$P_n = P_0 \sqrt{\left[1-(1-\cos\gamma_n)\frac{(0{,}5\delta + n_0)(k_s+1)}{2k_s\gamma_0}\right]^2}, \qquad (9)$$

is found. Thus the total load on one row of balls is given by

$$\sum_{n=1}^{m} P_n = 2P_0\left\{0{,}5 + \sum_{n=1}^{m/2}\sqrt{\left[1-(1-\cos\gamma_n)\frac{(0{,}5\delta+\gamma_0)(k_s+1)}{2k_s\gamma_0}\right]^2}\right\}.$$

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which leads to

$$P_0 = \frac{\sum_{n=1}^{m} P_n}{2 \cdot C_1},$$

where m is the number of ball-bearings in one row actually carrying the load. Considering the beam to be simply supported, to have certain bending moments acting on it, and making $\sum_{n=1}^{m} P_n = P_{AB}$ one obtains

$$P_0 = \frac{Q \pm \frac{M}{a_0}}{4C_2} \qquad (10)$$

or

$$P_{max} = \sqrt{P_{0A}^2 + (P_{rA} + P_{rB} + P_{rmax})^2}. \qquad (11)$$

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The author then shows that by various assumptions and substitutions based on Hertz' and Baugersfeld's theories, the loadings are resolved to $F_{a\ cm} = 150\ D$, $F_{r\ cm} = 60\ D$, $M_{cm} = 30\ D^2$. These equations are in agreement with experimental results. The author draws the following conclusions: There are two possible ways of calculating the loading capacity of large sized thrust bearings. Eqs. 5, 10 or 11 would be used if the assumptions made in deducing these are accepted, or, the longer method, taking into account all the basic factors, could be used. The seond method is more complex and, therefore, the author prefers the former. There are 5 figures and 6 references: 3 Soviet-bloc and 3 non-Soviet-bloc.

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KAZANSKIY, A.M.

Importance of a progress record in the effort to develop sound knowledge in students. Est.v shkole no.5:40-46 S-O '53. (MLRA 6:8)

1. Tul'skiy oblastnoy institut usovershenstvovaniya uchiteley.
(Biology--Study and teaching)

6941. KAZANSKIY, A. M. Mozg i yego robota. Osnovy ucheniya I. P. Pavlova o vyssh, nervnoy deyatel'nosti. Tula, Oblknigoizdat, 1954. 40. s ill. 20 sm. 5.000 ekz. 70 k. -/55-2951/p 612.82

Knizhnaya Letopis' No, 6, 1955

KAZANSKIY, Aleksey Mikhaylovich; RYBAKOVA, N.T., red.; SMIRNOVA, M.I., tekhn.red.

[Lessons in "Safeguarding one's health" for the 4th grade; a manual for teachers in elementary schools] Uroki po teme "Okhrana zdorov'ia" (IV klass); posobie dlia uchitelei nachal'noi shkoly. Moskva, Gos. ucheb.-pedagog. izd-vo M-va prosv. RSFSR, 1957. 81 p. (MIRA 11:4)
(HYGIENE)

KAZANSKIY, Anatoliy Mikhaylovich, prof., doktor tekhn. nauk; BUDNIKOV, V.A., dots., kand. tekhn. nauk, red.; OVSYANNIKOVA, Z.G., red. izd-va; GARINA, T.D., tekhn. red.

[Study, adjustment and testing of steam engines] Issledovanie, naladka i ispytanie parovykh mashin. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 119 p. (MIRA 15:3)
(Steam engines)

Investigating the performance of wire transducers fixed on an elastic ball element. Izm. tekh. no.9:16-19 S '61. (MIRA 14:8)
(Strain gauges)

KAZANSKIY, A.M., inzh.

Methods for designing large bearings for supporting and turning devices. Vest.mash. 41 no.7:11-16 Jl '61. (MIRA 14:6)
(Bearings (Machinery))

KAZANSKIY, Aleksandr Mikhaylovich; KHAVINSON, Yu.I., red.

[Agricultural production costs and ways to reduce them; using the example of the collective and state farms of Irkutsk Province] Sebestoimost' sel'skokhoziaistvennoi produktsii i puti ee snizheniia; na primerakh sovkhozov i kolkhozov Irkutskoi oblasti. Irkutsk, Vostochno-Sibirskoe knizhnoe izd-vo, 1964. 88 p. (MIRA 17:8)

BADAR'YAN, G.G.; TYUTIN, V.A.; CHEREMUSHKIN, S.D.; ZUZIK, D.T.; KHODASEVICH, B.G.; FRAYER, S.V.; GUSAKOV, Ye.I.; KAZANSKIY, A.M.; KASSIROV, L.N.; KARAYEV, S.A.; AMRANOV, V.A.; VASIL'YEV, N.V.; BUGAYEV, N.F.; SAPIL'NIKOV, N.G.; KASTORIN, A.A.; RUDNIKOV, V.N.; YAKOVLEV, V.A.; PEREMYKIN, V.I.; ISAYEV, A.P.; KUZ'MICHEV, N.N.; IL'IN, S.A.; PRONIN, V.A.; LUK'YANOV, A.D.; SHAKHOV, Ya.K.; IL'ICHEV, A.K., kand. sel'-khoz. nauk; KOGAN, A.Ya.; TSYNKOV, M.Yu.; BABIY, L.T.; GORBUNOV, I.I.; KOVALEV, A.M.; ROMANCHENKO, G.R.; BRODSKAYA, M.L., red.; IVANOVA, A.N., red.; GUREVICH, M.M., tekhn. red.; TRUKHINA, O.N., tekhn. red.

[Economics of agriculture]Ekonomika sotsialisticheskogo sel'-skogo khoziaistva; kurs lektsii. Moskva, Sel'khozizdat, 1962. 710 p. (MIRA 15:10)

(Agriculture—Economic aspects)

KAZANSKIY, A.M., professor, doktor tekhnicheskikh nauk.

Determining the distance between drains. Torf.prom. 30 no.8:23-28 Ag '53. (MLRA 6:7)
(Peat industry)

KAZANSKIY, A.M., professor, doktor tekhnicheskikh nauk.

Utilizing to the fullest extent the capacity of a P-3 locomobile. Torf.prom. no.2:26-30 '54. (MLRA 7:3)

1. Moskovskiy torfyanoy institut. (Steam engines)