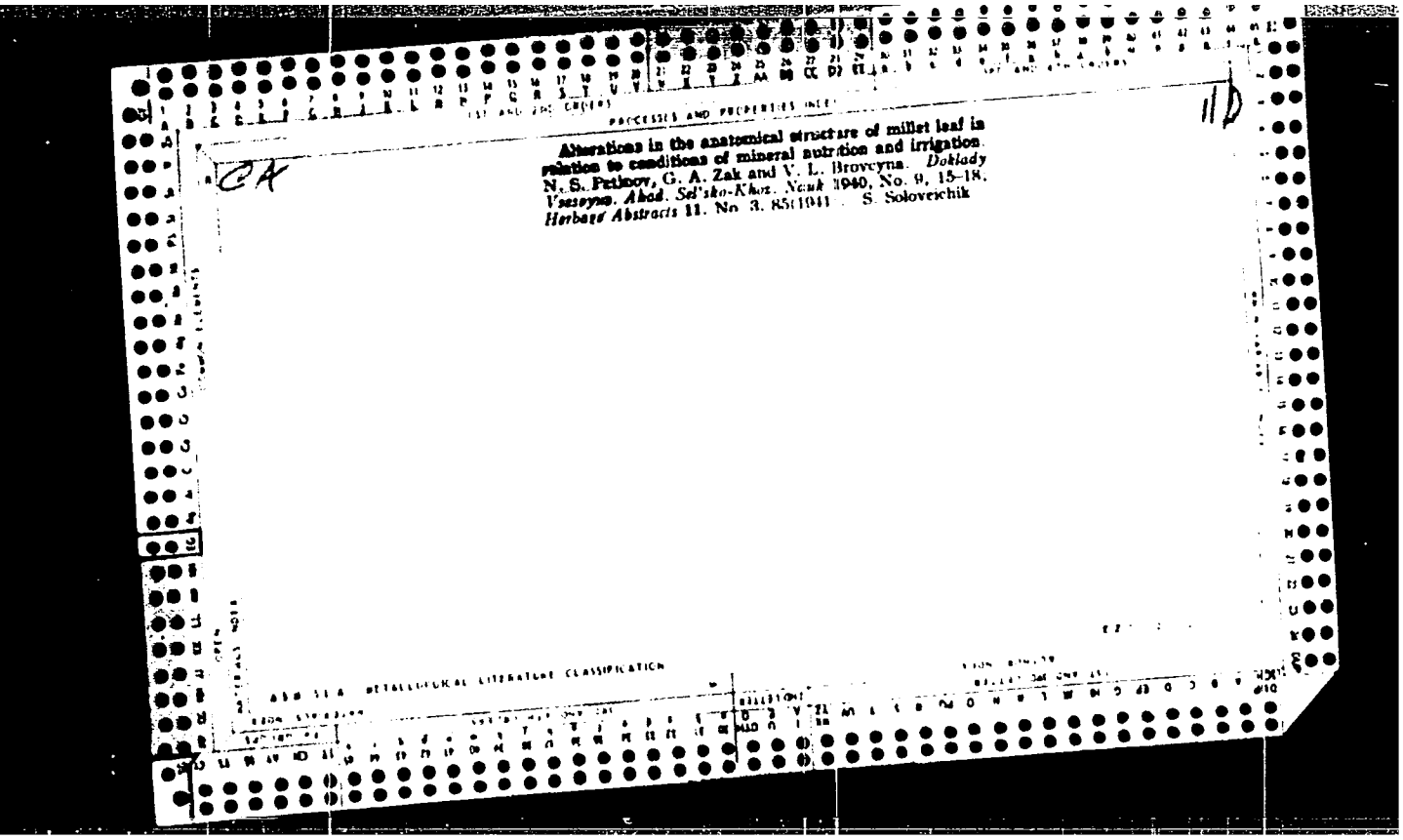
The effect of mineral fertilizers on the formation of rudimentary ear and the yield of spring wheat. N. D. Petrov and G. A. Zak. *Doklady Vsesoyuz. Akad. Sel'sko-Khoz. Nauk.* 1940, No. 8, 17-21; *Herbage Abstracts* 11, No. 3, 89(1941). S. Soloveichik

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION



CA

Alterations in the anatomical structure of millet leaf in relation to conditions of mineral nutrition and irrigation. N. S. Prilooy, G. A. Zak and V. L. Broveyna. *Doklady Vsesoyuz. Akad. Sel'sko-Khoz. Nauk* 1940, No. 9, 15–18. *Herbage Abstracts* 11, No. 3, 85(1941). S. Soloveichik

11D

PETINOV, N. S. Prof. Dr. Biol. Sci.

"The Determination of the Suction Force of Leaves by a Compensation Method with the Use of a Refractometer," Dok. AN, 62, No. 4, 1948. Mbr., Inst. Plant Physiology in K. A. Timiryazev, Dept. Biol. Sci., Acad. Sci., -c1948-. pp. 537-40

PETINOV, N. S.

33271. Itogam Kurskoy ekspeditsii Instituta fiziologii Rasteniy imeni K. A. Timiryazeva. Vestnik Akad. Nauk SSSR, 1949, No. 10, s. 76-7

SO: Letopis' Zhurnal'nykh Statey, Vol.45, Moskva, 1949

PETINOV, N.S.

Realization of Timiriazev's ideas and the theories of Dokuchaev and Vil'iams in irrigation farming in the U.S.S.R. Probl.bot. no.1:321-341 '50. (MLRA 8:11)
(Irrigation) (Soil moisture)

PETINOV, N.S.

"Problems of Physiological Effects Induced in Plants on Irrigated Land." (p. 3)
by Petinov, N. S.

SO: Journal of General Biology (Zhurnal Obshchei Biologii) Vol. 12, No.1, 1951.

PETINOV, N.S.

Importance of physiological data in irrigating crops. Fiziol. rast. 1 no.1:81-90 S-O '54. (MLRA 8:10)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moscow
(Irrigation farming) (Plants--Absorption of water)

USSR/Agriculture FD - 1569

Card 1/1 : Pub. 42-1/11

Author : Petinov, N. S.

Title : Problems of increasing the yield of plants in irrigation farming

Periodical : Izv. AN SSSR. Ser. biol. 5, 3-24, Sep-Oct 1954

Abstract : Investigated anatomical-physiological changes occurring in plants, especially spring wheat, with changes in environmental conditions for the purpose of obtaining plants which give an increased yield under irrigation. Describes changes in anatomical structure, changes in transpiration coefficient (number of units of water used in synthesis of one unit of weight of dry tissue), yield, and changes in metabolism as connected with yield. Names organizations investigating winter and spring wheat under conditions of irrigation and in humid regions. Lists improved types of wheat. Tables; drawings; photomicrographs. Ninety-one references, 89 of them USSR (49 since 1940)

Institution : Institute of Plant Physiology imeni K. A. Timiryazev, Academy of Sciences USSR

Submitted June 8, 1954

PETINOV, N. S.

USSR/ Biology - Plant physiology

Card 1/1 : Pub. 124 - 9/35

Authors : Petinov, N. S., Dr. of Biological Sc.

Title : Physiological indicators of watering of plants in irrigation farming

Periodical : Vest. AN SSSR 7, 53-56, July 1954

Abstract : The water requirements of plants grown in arid soil requiring continuous irrigation are indicated. The physiological aspects of plant irrigation are explained. Tables.

Institution : .....

Submitted : .....

PETINOV, N.S.

Water relations in cotton. V.S.Shardakov. Reviewed by N.S.Petinov. Fiziol.rast.2 no.1:93-94 Ja-F '55. (MLRA 8:9)
(Cotton--Water requirements) (Shardakov, V.S.)

PETINOV, N.S.; PAVLOV, A.N.

Increasing the protein content of irrigated spring wheat by means of foliar application of nitrogen nutrients. Fiziol. rast. 2 no.2 113-122 Mr-Ap '55. (MLRA 8:10)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moscow
(Wheat) (Plants, Effect of nitrogen on)

PETINOV, N.S.

Meeting devoted to the water economy of plants and the biological basis of irrigation farming. Fiziol.rast.2 no.2:191-192 Mr-Ap '55. (MLRA 8:10)

(Plants--Water requirements)

PETINOV, N.S.; LEBEDEV, G.V.

Tea plantation irrigation in the Lenkoran area of the Azerbaijan S.S.R. Fiziol.rast. 2 no.3:228-234 My-Je '55. (MLRA 8:11)

1. Institut fiziologii rasteniy imeni K.A.Timiryazeva Akademii nauk SSSR, Moscow
(Azerbaijan--Tea)

PETINOV, N. S.

MD

Anatomo-physiological changes in sugar beet in connection with raising of its productivity. N. S. Petinov and L. D. Prusakova (K. A. Timiryazev Inst. Plant Physiol., Moscow). *Fiziol. Rastenii* 2, 405–14 (1955).—Under optimum conditions of irrigation and nutrition the increase of productivity of sugar beet occurs as the result of the following factors: enhanced mesophilic properties of the leaves and stems, reduction of the ratio of bound water to free water by increase of the latter, and by reduction of respiration rate and activity of oxidative enzymes to a certain limit. The greatest changes in this respect are seen in plants grown on irrigated plots which are abundantly supplied with P and K. For best results one should use seeds from plants which had been adapted to well-irrigated condition as well as seeds from the best of the irrigated plots. G. M. K.

(1)

PETINOV, N. S.

USSR/ Agriculture - Irrigation

Card 1/1 Pub. 124 - 28/39

Author : Petinov, N. S., Dr. Biol. Sc.

Title : Biological bases of irrigation agriculture

Periodical : Vest. AN SSSR, 25/5, 85 - 88, May 1955

Abstract : An account is given of a conference organized by the Department of Biological Sciences and the Institute of the Physiology of Plants of the Academy of Sciences for the purpose of studying the problems of the water regime in agriculture. Although irrigation was the main topic, all related phases of agriculture were considered, including the use of peat bogs and swamps. About 200 persons took part, representing the sciences of hydrotechnics, physiology of plants, agribiology, soil science, microbiology, agrichemistry, meteorology, geography, and others.

Institution : .....

Submitted : .....

PETINOV, N.S., professor, otvetstvennyy redaktor; ASTAPOV, S.V., professor, otvetstvennyy redaktor; IVANOV, V.P., redaktor izdatel'stva; KISELEVA, A.A., tekhnicheskiy redaktor

[Irrigation of agricultural crops in the central Chernozem region of the R.S.F.S.R.; a collection of papers] Oroshenie sel'skokhoziaistvennykh kul'tur v tsentral'no-chernozemnoi polose RSFSR; sbornik rabot. Moskva, No.2. 1956. 410 p. (MLRA 9:11)

1. Akademiya nauk SSSR. Institut fiziologii rasteniy.
(Chernozem soils--Irrigation farming)

COUNTRY	:	USSR
CATEGORY	:	Cultivated Plants. Cereals. M
ABS. JOUR.	:	RZhBiol., No.14, 1958, No. 63303
AUTHOR	:	Petinov, N. S., Sinitsyna, A. A.
INST.	:	Academy of Sciences USSR
TITLE	:	On the Problems of Comparative Physiological Characteristics of Different Spring Wheat Varieties Under Conditions of Irrigation.
ORIG. PUB.	:	V sb.: Oroshenlye s.-kh. kul'tur v Tsentr.-chernozem. polose RSFSR, Vyp. 2. M., AN SSSR, 1956, 340-347
ABSTRACT	:	In 1949-1950, tests were conducted at Kursk ZOMS* on the comparison of two spring wheat varieties (Lyutestsens 62 and Wheat-couch grass hybrid 22850) according to physiological indicators - suction power, osmotic pressure and the concentration of the cell sap in the leaves. In the less drought resistant variety, wheat-couch grass hybrid 22850, the physiological indicators showed a better irrigation of the leaves, lower in comparison with the more drought resistant variety Lutestsens 62. The Wheat-couch grass hybrid was also distinguished by a smaller

Card: 1/2

* Zonal Irrigation and Land Reclamation Station

PETINOV, N. S.

Anatomo-physiological differences of branching wheat under irrigation. N. S. Petinov and N. N. Kharanyan (K. A. Timiryazev Inst. Plant Physiol., Moscow). *Fiziol. Rastenii* 3, 10-22(1956).—Branching wheat (Kakhetinsk variety) was compared anatomically with the common wheat; the structural differences are detailed. The branching wheat responds more readily to irrigation, shows higher sucrose synthesis during bushing and tube formation; at milk ripeness the synthesis vanishes being replaced by hydrolysis as the result of which sucrose synthesis cannot be detected. Dry matter build up, starch, and N contents were lower in branching wheat and, the seeds contained lesser amounts of these materials than in common wheat. Thus under drought conditions the branching wheat does not give satisfactory results. G. M. Kosolapoff

PETINOV, N. S.

Physiological nature of heat resistance of some cultivated plants. N. S. Petinov and Yu. G. Molotkovskii (K. A. Timiryazev Inst. Plant Physiol., Moscow). *Fiziol. Rastenii* 3, 516-20(1956).—Expts. on artificial wilting by heat of plants of buckwheat, watermelon, oats, and lettuce showed that the important protective reaction of a plant to heat is the formation of org. acids which are effective in binding NH_3, the terminal product of proteolysis. Increased rate of formation of org. acids is assured only by a heat-resistant respiratory enzyme system. Heat-resistance can be raised artificially by treatment of the plants with dil. solutions of citric acid. Spraying of plants with $ZnSO_4$ (0.05%) for extra-radical nutrition aids the accumulation of org. acids and thus raises the heat resistance of the plant.

—G. M. Kovalapoff

PETINOV, N.S., professor, doktor biologicheskikh nauk, otvetstvennyy redaktor; ZHOLKEVICH, V.N., redaktor izdatel'stva; SHEVCHENKO, G.N., tekhnicheskiy redaktor

[Biological principles of irrigation farming] Biologicheskie osnovy oroshaemogo zemledeliia; sbornik statei. Moskva, 1957. 711 p. (MLRA 10:8)

1. Akademiya nauk SSSR. Institut fiziologii rastenii.
(Irrigation farming)

COUNTRY : USSR
CATEGORY : Plant Physiology. Water Conditions. I

ABS. JOUR. : RZhBiol., No. 3 1959, No. 10611

AUTHOR : Petinov, N. S., Lebedev, G. V.
INST. : Academy of Sciences USSR
TITLE : The Water Content in Tea Plants Cultivated under Irrigation.

ORIG. PUB. : Vsb.: Fenyati sbsd. N. A. Maksimova. M., AN SSR, 1957, 87-97

ABSTRACT : The index of refraction, concentration of cell sap, water holding and water absorbing capacity of adult tea leaves were being determined in the presence of different amounts of soil moisture for the purpose of ascertaining the water application dates for the tea plantations in Lankoranskiy rayon of Azerbaydzhan SSR. In the period of rainfall on the unirrigated plot and the sprinkled plot, the difference in the indices of refraction is not great. In the period of high temperatures and relatively low

CARD: 1/2

14

summary. The bibliography lists 10 titles.

PETINOV, N.S.

Biol/Plant Physiology - Growth and Development

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

Author : Petinov N.S., [illegible]

Inst :

Title : The Influence of Artificial Daylight in the Germination Period on Subsequent Growth and Development of Corn Hybrids.

Orig Pub : Fiziol. rastenii, 1957, No , [illegible]

Abstract : Plants of hybrid corn of medium-ripened varieties of P-3 and B-471 prior to transplantation in the field were raised in pots filled with peat-humus soil and were subjected to short-days action for 10-13 days in 1955 experiments and up to 20 days in experiments in 1956. The short day light action accelerated the coming of all development phases by 6-8 days. Increase of the action period from 15 to 20 days led to even greater acceleration of development (by 12-13 days), accompanied, however, by a considerable

Card 1/2

PETINOV, N.S.

M-2

USSR/Cultivated Plants - Grains.

Abs Jour : Ref Zhur - Biol., No 20, 1958, 91634

Author : Petinov, N.S., Korshunova, K.M.
Inst : -
Title : The Role of the Root System in the Productivity of the Corn Leaf Apparatus During Irrigation.

Orig Pub : Fiziol. osteniy, 1957, 4, No 4, 365-371

Abstract : The activity of the root system in Dnepropetrovskaya variety corn with an ample supply of water and mineral substances was studied in comparison with the regular circumstances of cultivation in 1956 under field conditions at Altaiskiy Kray. With irrigation added to fertilization, the corn roots during the entire vegetation yielded 2 - 5 times more connsap than without irrigation. Directly dependent on its uptake is the dry weight accumulation of the above-ground mass. Augmented sap accumulation in the plants during irrigation also causes a more

Card 1/2

Petinov, N.S.

I.

USSR/Plant Physiology - Water Regimen

Abs Jour : Ref Zhur - Biol., No 18, 1958, 82012

Author : Petinov, N.S., Prussakova, L.D., Sinitsyna, Z.A.

Inst : Institute of Plant Physiology, AS USSR

Title : Water Conditions and Plant Productivity

Orig Pub : Fiziol. rasteniy, 1957, 4, No 6, 554-565

Abstract : Summer wheat B-55 and sugar beet P-362 were grown in vegetation vessels with a soil moisture which was 35 and 70% (for wheat) and of 80% (for sugar beet) of its full moisture capacity. A direct connection between soil moisture on the one side and the water supply of the cells, the amount of free water, the relative degree of water saturation of the cells and the transpiration intensity - on the other was established. An inverse dependence of the value of the suction force, of the amount of

Card 1/2

-- PETINOV, N.S.

USSR / Cultivated Plants. Cereals. M

Abs Jour : Ref Zhur - Biol., No 8, 1958, No 34652

Authors : Petinov, N.S.; Pavlov, A.N.; Yaroshenko, V.N.
Inst : Institute for Plant Physiology AS SSSR
Title : Changes in Quality of Corn Cobs in the Period Between Harvest and Ensilage.

Orig Pub : Priroda, 1957, 46 No 6, 90-91

Abstract : Research conducted by the Institut for Physiology of the Academy of Sciences of the SSSR with corn cobs, harvested in milky and wax ripeness phases and stored for 48 hours in temperatures of 17 to 20°C., has shown that the content of sugar sharply decreases (to about half) simultaneously with a decrease of the content of ascorbic acid. In granulated cobs, the loss of

Card 1/2

USSR / Cultivated Plants. Grains. M-3

Abs Jour: Ref Zhur-Biol., 1958, No 10, 72886.

Author : Petinov, N. S.; Pavlov, A. N.
Inst : AS USSR.
Title : On the Role of Separate Organs During Ripening of Wheat Grain.

Orig Pub: Dokl. AN SSSR, 1957, 117, No 1, 146-149.

Abstract: Experiments with Blackspike "Chernokolosa" bearded hard spring wheat were conducted on irrigated plots of the Engelsskaya Experimental-Improvement Station (Saratovskaya Oblast), with "Moskovkoy" soft spring wheat outside Moscow. Up to 25% of the dry substance is taken up by grain from the leaf blades, as well as from the glume and bract scales during ripening. The share of the leaves and scales in

Card 1/2

PETINOV, Nikolay Stepanovich, prof., doktor biologicheskikh nauk. [illegible], S.M., red.; [illegible], T.N., tekhn.red.

[Water cycle and irrigation of farm plants] Vodnyi rezhim i orashenie sel'sko-khoziaistvennykh rastenii. Moskva, Izd-vo "Znanie," 1958. 39 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh nauchnykh znanii. Ser. 8, vyp.1, no.6) (MIRA 11:8)
(Plants--Water requirements)
(Irrigation)

PETINOV, N.S.; KORSHUNOVA, K.M.

Productivity of the leaf apparatus in corn grown under irrigation [with summary in English]. Fiziol. rast. 5 no.2:140-146 Mr-Ap '58. (MIRA 11:4)

1.Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR, Moskva (for Petinov). 2.Biologicheskiy institut Sibirskogo otdeleniya AN SSSR, Novosibirsk (for Korshunova).
(Corn (Maize)) (Leaves) (Irrigation)

PETINOV, N.S.; SAMIYEV, Kh.

Effect of nitrogen and phosphorus fertilizers on some physiological processes and productivity of the cotton plant [with summary in English]. Fiziol.rast. 5 no.6:530-540 N-D '58. (MIRA 11:12)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva, i Institut genetiki i fiziologii rasteniy AN UzSSR, Tashkent.
(Cotton--Fertilizers and manures)

PETINOV, N.S.; SAMIYEV, Kh.

Effect of soil moisture conditions on some physiological processes in cotton leaves. Uzb.biol.zhur. no.1:37-42 '59.
(MIRA 12:7)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva AN SSSR.
(Cotton--Water requirements)

PETINOV, N.S.; SAMIYEV, Kh.

Some features of nitrogen and phosphorus nutrition in the cotton plant. Fiziol. rast. 6 no.4:438-445 Jl-Ag '59. (MIRA 12:10)

1.K.A. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Cotton--Fertilizers and manures)
(Nitrogen) (Phosphorus)

PETINOV, N.S.

Achievements in agriculture and biological science in the Chinese People's Republic. Fiziol. rast. 6 no.5:632-642 S-O '59.
(MIRA 13:2)

1.K.A. Timiryazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(China--Agriculture)

PETINOV, N.S., prof., doktor biolog.nauk

Great agricultural achievements in the Chinese People's Republic. Zemledelie 7 no.10:85-90 O '59. (MIRA 13:1)
(China--Agriculture)

PETINOV, N.S.; KHARANYAN, N.N.

Effect of mineral nutrition on the water regimen and yields of rice. Izv. AN SSSR. Ser. biol. no.3:380-388 My-Je '60. (MIRA 13:7)

1. Institute of Plant Physiology, Academy of Sciences of the U.S.S.R., Moscow.

(RICE--FERTILIZERS AND MANURES)
(RICE--IRRIGATION)

PETINOV, N.S.

International Symposium on the Water Economy of Plants in Arid and Semiarid Zones. Izv. AN SSSR. Ser. biol. no.5:808-813 S-O '60.
(MIRA 13:9)

(PLANTS, EFFECT OF ARIDITY ON--CONGRESSES)

PETINOV, N.S.; LEBEDEV, G.V.

Activity of oxidizing enzymes and respiration of leaves in tea plants grown under irrigation. Biokhim. chain. proizv. no.8: 21-25 '60. (MIRA 14:1)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva.
(Tea--Irrigation) (Catalase)
(Plants--Respiration)

PETINOV, N.S.; LEBEDEV, G.V.; BAGIROV, A.Yu.; YEGOROV, V.G.

Quality of tea grown under new irrigation conditions. Biokhim. chain. proizv. no.8:26-28 '60. (MIRA 14:1)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR, Moskva i Avrorskaya chaynaya fabrika Sovnarkhoza AzerbSSR.
(Lenkoran Lowland--Tea--Irrigation)

PETINOV, N.S.; MALYSHEVA, K.M.

Influence of droughts on the effectiveness of respiration in corn leaves. Fiziol. rast. 7 no. 5:553-557 '60. (MIRA 13:10)

1. K.A. Timiriazev Institute of Plant Physiology, U.S.S.R., Academy of Sciences, Moscow.
(Plants, Effect of aridity on) (Plants--Respiration)
(Corn (Maize))

PETINOV, N.S.; MOLOTKOVSKIY, Yu.G.

Effect of respiration inhibitors on the heat resistance of plants. Fiziol. rast. 7 no.6:665-672 '60. (MIRA 14:1)

1. K.A. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Plants, Effect of heat on) (Plants--Respiration)

LEBEDEV, Gennadiy Vasil'yevich; PETINOV, N.S., otv. red.; POVOLOTSKAYA, K.L., red. izd-va; POLENOVA, T.P., tekhn. red.

[Tea cultivation under irrigation] Chainyi kust v usloviiakh orosheniia. Moskva, Izd-vo Akad. nauk SSSR, 1961. 103 p. (MIRA 14:6)
(Tea--Irrigation)

ANTIPOV-KARATAYEV, I.N., akademik, red.; BOGOMOLOV, G.V., akademik, red.; GENKEL', P.A., doktor biol. nauk, red.; PETINOV, N.S., doktor biol. nauk, red.; CHERVINSKIY, V.F., doktor sel'khoz. nauk, red.; SHAFRANSKAYA, M.Z., red. izd-va; YEGOROVA, M.F., tekhn. red.

[Plant-water relations in arid regions of the U.S.S.R; [reports of Soviet scientists] Vodnyi rezhim rastenii v zasushlivykh raionakh SSR; [doklady sovetskikh uchenykh]. Moskva, Izd-vo Akad. nauk SSSR, 1961. 274 p. (MIRA 15:3)

1. Symposium on Plant-Water Relations in Arid and Semi-Arid Conditions, Madrid, 1959. 2. Akademiya nauk Tadzhikskoy SSR (for Antipov-Karatayev). 3. Akademiya Belorusskoy SSR (for Bogomolov)4. Institut Fiziologii rasteniy im. K.A.Timiryazeva Akademii nauk SSSR (for Genkel', Petinov).
(Plants--Water requirements)
(Plants, Effect of aridity on)

PETINOV, N.S.; RAZMAYEV, I.I.

Aftereffect of high temperature on dynamics of nonprotein nitrogen in plants. Izv. AN SSSR. Ser. biol. no.4:533-537 Jl-Ag '61. (MIRA 14:9)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva AN SSSR.
(PLANTS, EFFECT OF TEMPERATURE ON)

PETINOV, N.S.; BERKO, N.F.

Effect of moisture conditons on the absorptive activity and respiration intensity of the root system in corn. Fiziol. rast. 8 no.1:51-57 '61. (MIRA 14:3)

1. K.A. Timiryazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Roots(Botany)) (Plants, Effect of soil moisture on)

PETINOV, N.S.; RAZMAYEV, I.I.

Effect of high temperatures on the water regime and nitrogen metabolism of plants. Fiziol. rast 8 no.2:188-195 '61. (MIRA 14:3)

1. K. A. Timiriazev Institute of Plant Physiology, U.S.S.R., Academy of Sciences, Moscow.
(Plants, Effect of heat on)

PETINOV, N.S.

Physiological basis of the high efficiency of intermittent sprinkler irrigation observed in tea plantations. Izv. AN SSSR. Ser. biol. 26 no.5:717-728 S-O '61. (MIRA 14:9)

1. Institute of Plant Physiology, Academy of Sciences of the U.S.S.R., Moscow.
(LENKORAN LOWLAND—TEA—IRRIGATION)

PETINOV, N.S.; RAZMAYEV, I.I.

Aftereffect of high temperatures on crop yields and quality. Dokl. AN SSSR 140 no.4:950-951 O '61. (MIRA 14:9)

1. Institut fiziologii rasteniy im. K.A. Timiryazeva AN SSSR. Predstavleno akademikom A.L.Kursanovym.
(Plants, Effect of heat on) (Wheat)

ABRAROV, A.A.; PETINOV, N.S.

Pentose phosphate way of respiration in plants under conditions of soil drought. Dokl. AN SSSR 158 no.5:1209-1212 O '64.

(MIRA 17:10)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva AN SSSR. Predstavleno akademikom A.L.Kursanovym.

PETINOV, N.S.; [illegible]

Second All-Union Symposium on the Physical Properties [illegible] Irrigation Farming. Pochvovedenie, no. 10, [illegible]
(MIRA 13:10)

PETROV, N.S., prof. (Moskva); BRODYSHEV, V.I., inzh. (Moskva)

Biological bases of irrigation farming. Gidr. i mel. 17
no.8:56-62 Ag '65. (MIRA 18:10)

PETINOV, N.S.; BERKO, N.F.

Free amino acid content in corn in connection with its growth processes under various conditions of water supply. Fiziol.rast. 12 no.1:56-63 Ja-F '65. (MIRA 18:3)

1. Institut fiziologii rastoniy imeni K.A.Timiryazeva AN SSSR, Moskva.

PETINOV, N.S., prof.

Effectiveness of the physiological method of the establishment of irrigation periods. Gidr. i mel. 16 no.4:45-48 Ap '64. (MIRA 17:6)

1. Institut fiziologii rasteniy imeni K.A. Timiryazeva AN SSSR.

PETINOV, N. S. (Moscow)

"Responses to water status within the plant."

report submitted for 10th Int. Botanical Cong, Edinburgh, 3-12 Aug '64.

PETINOV, N. [illegible] doktor biol. [illegible] red.; ALEKSEYEV, A.I., doktor biol. nauk [illegible] red.; [illegible], P.A., doktor biol. nauk prof. red.; [illegible] doktor biol. nauk, red.; ZHOLKEVICH, V.N. [illegible] nauk, red.; KUL'TIASOV, I.M., red. izd-va; [illegible] red.

[Water balance of plants as related to their metabolism and productivity] Vodnyi rezhim rastenii v sviazi s obmenom veshchestv i produktivnost'. Moskva, Izd-vo AN SSSR, 1963. 334 p. (MIRA 16:10)

1. Akademiya nauk SSSR. Institut fiziologii rastenii.
(Plants--Water requirements)
(Plants--Metabolism)

PETINOV, N.S.; SHAN' LUN' [Shan Lun]

Effect of the water balance and mineral nutrients on the photosynthesis of plants in relation to the yield. Fiziol. rast. 9 no.3: 309-317 '62. (MIRA 15:11)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Photosynthesis) (Plants--Water requirements)
(Plants, Effect of minerals on)

PETINOV, Nikilay Stepanovich; MATVEYENKO, T.A., red. izd-va; YEGOROVA, N.F., tekhn. red.

[Physiology of irrigated farm crops]Fiziologiia oroshaemykh sel'skokhoziaistvennykh rastenii. Moskva, Izd-vo Akad. nauk SSSR, 1962. 158 p. (Timiriazevskie chtenia, no.14)
(MIRA 16:2)

(Field crops--Water requirements)

PETINOV, N.S.; SHAN' LUN' [Shan Lun]

Ontogenetic changes in the water balance of plants as a function of water supply and nutrition. Izv. AN SSSR. Ser. biol. no.3: 406-417 My-Je '62. (MIRA 15:6)

1. Timiryazev Institute of Plant Physiology, Academy of Sciences of the U.S.S.R., Moscow.
(PLANTS—WATER REQUIREMENTS)
(PLANTS, EFFECT OF MINERALS ON)

PETINOV, N.S., doktor biolog.nauk; MOLOTKOVSKIY, Yu.G., kand.biolog.nauk

Methods for increasing the heat resistance in plants. Vest.Ak SSSR 32 no.8:62-64 Ag '62. (MIRA 15:8)
(Plants, Effect of temperature on)

PETINOV, N.S.; PAVLOV, A.N.

Active absorption of water and transpiration in corn as related to the absorption of mineral substances. Izv. AN SSSR. Ser.biol. no.6:888-896 N-D '61. (MIRA 14:11)

1. Institute of Plant Physiology, Academy of Sciences of the U.S.S.R., Moscow.
(PLANTS--ABSORPTION OF WATER) (PLANTS, EFFECT OF NITROGEN ON)

PETINOV, N.S.; RAZMAYEV, I.I.

Aftereffect of high temperature on the phosphorus exchange in plants. Izv. AN SSSR. Ser. biol. 27 no.1:106-111 Ja-F '62. (MIRA 15:3)

1. Institute of Plant Physiology, Academy of Sciences of the U.S.S.R., Moscow.

(PLANTS, EFFECT OF TEMPERATURE ON)
(PHOSPHORUS METABOLISM)

PETINOV, N.S., doktor biolog.nauk

"Biochemistry and physiology of plant immunity" by B. A. Rubin, E.V. Artsikhovskaia. Reviewed by N.S. Petinov. Vest. AN SSSR 32 no.1:151-153 Ja '62. (MIRA 15:1)
(Plants--Disease and pest resistance) (Rubin, B.A.) (Artsikhovskaia, E.V.)

PETINOV, N.S.; RAZMAYEV, I.I.

Effect of high temperatures on the intensiveness of respiration and carbohydrate metabolism in plants. Fiziol. rast. 8 no.4:417-424 '61. (MIRA 14:11)

1. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Plants--Respiration)
(Carbohydrate metabolism)
(Plants, Effect of temperature on)

PETINOV, N.S., prof.

Physiological principles of irrigation farming. Priroda [illegible]
59-67 Ja '62. (MIRA [illegible])
(Irrigation farming)

PETINOV, N.S.; [illegible]ANT[illegible]V, Yu.A.

Chemical [illegible] of the [illegible] resistance of triti[illegible]-agropyron hybrids. Fiziol. rast. [illegible]

[illegible]

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, [illegible]skva.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012402

L 27257-66 EWP(k)/EWT(m)/ETC(m)-6/T-2/EWP(w)/EWP(v) IJP(c) EM
ACC NR: AP6009859 (A) SOURCE CODE: UR/0413/66/000/004/0053/0053

AUTHOR: Petinov, V. I.

42
B

ORG: none

TITLE: Axial compressor blade. Class 27, No. 178932

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 53

TOPIC TAGS: axial compressor, compressor blade

ABSTRACT: This Author Certificate presents an axial compressor blade made of sheet metal. To simplify construction and manufacturing technology, the compressor is formed simultaneously with the insert out of several stacked plates of a given profile and length and with thickness decreasing away from the base. For connection of the blades into packets of multi-row cascades, the ends of the blades have shaped connectors (see Fig. 1). To decrease frontal drag losses, the front and rear edges of the blades are sharpened at a given angle.

Card 1/2 UDC: 621.515.5-226.2

L 27257-66

ACC NR: AP6009859

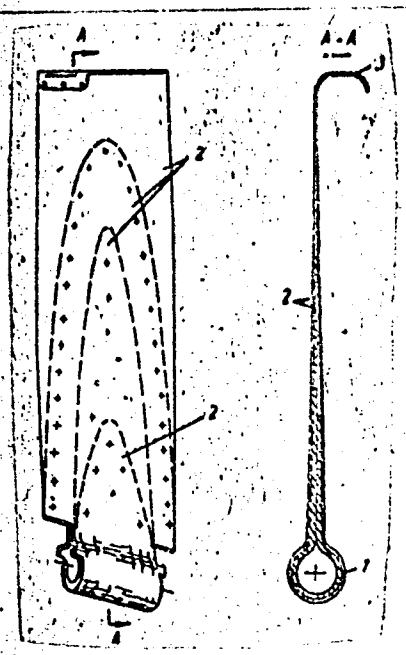


Fig. 1. 1 - insert; 2 - stamped plates; 3 - shaped connections.

Orig. art. has: 1 figure.

Card 2/2 CC SUB CODE: 13/ SUBM DATE: 25Jan65

L 28759-65 EWA(k)/EWT(l)/EWT(m)/EEC(k)-2/EPF(n)-2/T/LEC(b)-2/EWP(k)/EWP(b)/
EWA(m)-2 P_o-4/Pf-4/Pi-4/Pu-4/Pl-4 IJP(c) WG/JHB/JD/JG

ACCESSION NR: AP5004369 B/0056/65/048/001/0029/0033

AUTHOR: Gen, M. Ya.; Petinov, V. I.

TITLE: Electron paramagnetic resonance in finely dispersed lithium

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 1, 1965, 29-33

TOPIC TAGS: lithium, aerosol particle, electron paramagnetic resonance, line width, spin lattice relaxation

ABSTRACT: The authors investigate the influence of the size of spherical lithium particles on the width and profile of the paramagnetic resonance line. Finely dispersed lithium with particle size from 6 x 10^{-5} to 6 x 10^{-6} cm was obtained by an aerosol method similar to that described by Gen elsewhere (with M. S. Ziskin and Yu. I. Petrov, DAN SSSR v. 127, 36, 1959). The EPR spectra were recorded at 300 and 77K with standard apparatus of the EPR-2 type using modulation at 9350 Mc/sec. The results show that the EPR line broadens almost 2-fold when the particle size is reduced from 6 x 10^{-5} to 6 x 10^{-6} cm. The probability of the spin flip of an electron upon its collision with the surface of a particle is found by plotting

Card 1/2

L 28759-65

ACCESSION NR: AP5004369

4

the reciprocal of the spin lattice relaxation time against the reciprocal of the particle radius. The spin lattice relaxation, and consequently also the spin flip probability, is found to be governed essentially by relaxation on the impurities, and depends therefore on the purity of the lithium. For the finest lithium, an additional narrow EPR line, approximately 1 Oe wide, was observed at 77K, and is attributed to quantization of the electron levels in such small particles. "We thank N. I. Stoyenko and Yu. I. Fedorov for help in preparing the samples, and I. F. Shchegolev for a discussion of the results." Orig. art. has: 5 figures and 2 formulas.

ASSOCIATION: Institut khimicheskoy fiziki (filial) Akademii nauk SSSR (Institute of Chemical Physics (Branch), Academy of Sciences SSSR)

SUBMITTED: 28May64 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 004

Card 2/2

L 23292-66 EWT(1)/EWT(m)/EWP(w)/EWP(t)/EWP(r)/T-2/EWP(k)/ETC(m-6 WW/EM
ACC NR: AP6012123 SOURCE CODE: UR/0413/66/000/007/0043/0043

AUTHOR: Petinov, V. I.

ORG: none

TITLE: Axial compressor. Class 27, No. 180288

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 43

TOPIC TAGS: compressor, axial compressor

ABSTRACT: The proposed compressor contains a rotor with a multirow cascade of blades and a casing with guide vanes mounted on it. (see Fig. 1). The vanes are located behind the rotor blades. To increase the compressor efficiency and reduce its size, the rotor blades and guide vanes form multistage cascades in which the blades are staggered

Card 1/2

L 23292-66
ACC NR: AP6012123

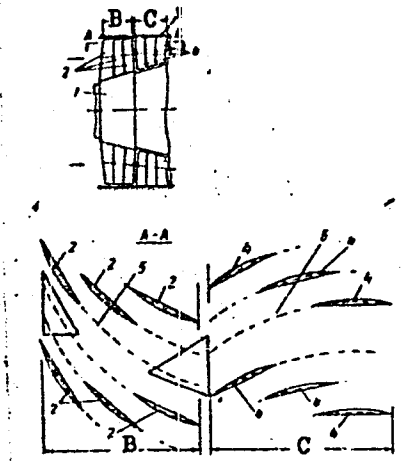


Fig. 1. Axial compressor

1 - Rotor; 2 - rotor blade; 3 - compressor casing; 4 - guide vane; 5 - multistage rotor cascade; 6 - multistage guide vane cascade.

in respect to each other along concentric circles. To increase the capacity and pressure head in a variation of this compressor, the blade and guide vane groupings are repeatedly alternated as in a type of multistage blade machine. Orig. art. has: 1 figure. [TN]

SUB CODE: 21/ SUBM DATE: 09Dec64/ ATD PRESS: 4230
Card 2/2

ACC NR: AP6011660

AUTHOR: Petrov, V.I.; Andreev, [illegible]

ORG: Institute of Chemical Physics, [illegible] SR (Institut khimicheskoy [illegible] AN SSSR)

TITLE: Measurements on the microwave spectrometer RE-1301 at 4.2°K

SOURCE: Pribory i tekhnika eksperimenta, [illegible] 1960, 96-97

TOPIC TAGS: microwave spectroscopy, [illegible] wave spectrometer; paramagnetic resonance, el[illegible] paramagnetic resonan[illegible], [illegible]stat, cryogenic storage device/RE-1301 microwave spectrometer

ABSTRACT: This paper describes a cryostat which permits measurement [illegible] electronic paramagnetic resonance signals at temperatures between 1.7 and 4.2 °K, using the standard microwave spectrometer RE-1301. By employing an inserted modulation loop made of a few turns of a LESh0 .07mm x 21 strand wire, the heat generation was reduced sufficiently to enable 8 hour operation at the 975 kilocycles modulation frequency power. The resonating chamber was made of a 23 x 10 mm^2 piece of the standard waveguide, oscillating in the H_{102} mode. Details of construction are given. Auth[illegible] thank A. Yu. Ardashev for aid in the construction of the cryostat. Orig. art. has 3 figures.

SUB CODE: 20 / SUBM DATE: 16Feb65 / ORIG REF: 002 / OTH REF: 001

Card 1/1 UDC: 621.59:539.28.078

L 24111-66 EWT(1)/FCC GW

ACC NR: AT6004291 SOURCE CODE: UR/3175/65/000/026/0015/0019

AUTHOR: Arustamova, M. V.; Petinov, V. M.; Sukhanov, S.

ORG: none

TITLE: Magnetometer for measuring weak magnetic fields based on the Hall effect in InSb

SOURCE: USSR. Gosudarstvennyy geologicheskiy komitet. Osoboye konstruktorskoye byuro. Geofizicheskaya apparatura, no. 26, 1965, 15-19

TOPIC TAGS: weak magnetic field, Hall generator, Hall effect, indium, antimony, magnetometer, circuit design, electrode, electron tube, magnetic permeability, electric transformer, electric generator

ABSTRACT: Although a number of recent studies have been devoted to the problem of measuring weak magnetic fields with InSb and InAs Hall generators, a practical Hall-effect instrument has not been devised. The article reviewed below proposes a compact magnetometer based on the Hall effect in InSb with a sensitivity of the order of $6.5\text{4} \times 10^{-8}$ oe. It has no rotating or vibrating parts and provides a simple means of continuous measurements under both steady-state and nonsteady-state conditions. The principle circuit diagram of the magnetometer is shown in the figure.

Card 1/4

L 24111-66
ACC NR: AT6004291

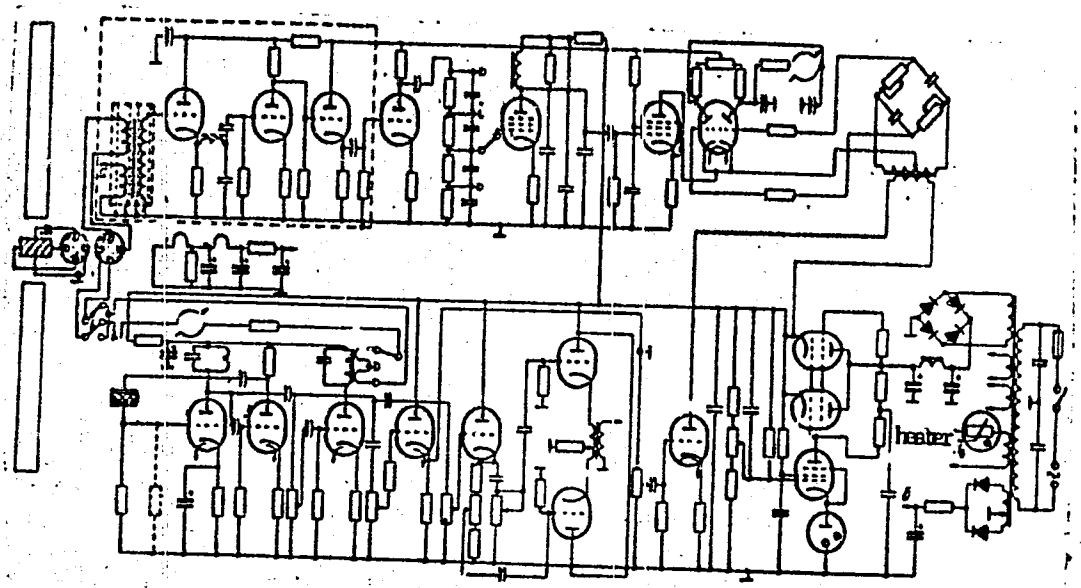


Fig. 1. Hall-effect magnetometer

Card 2/4

The sensitivity of the magnetometer depends not only on the voltage sensitivity of the Hall generator but also on the sensitivity of the output indicator, which, in turn, is determined chiefly by parameters of the input stage and the compensation quality of total parasitic voltages on the Hall electrodes. The low output resistance of the generator (2 ohms for a 70-μ thickness) allows for a tube-type output indicator with a sensitivity in the neighborhood of 10^{-10} v. To achieve such sensitivity, the amplifier tube in the input stage must have a low equivalent noise for a high transconductance at the operating frequency, and the stage must have high input and low output resistance for the smallest value of noise.

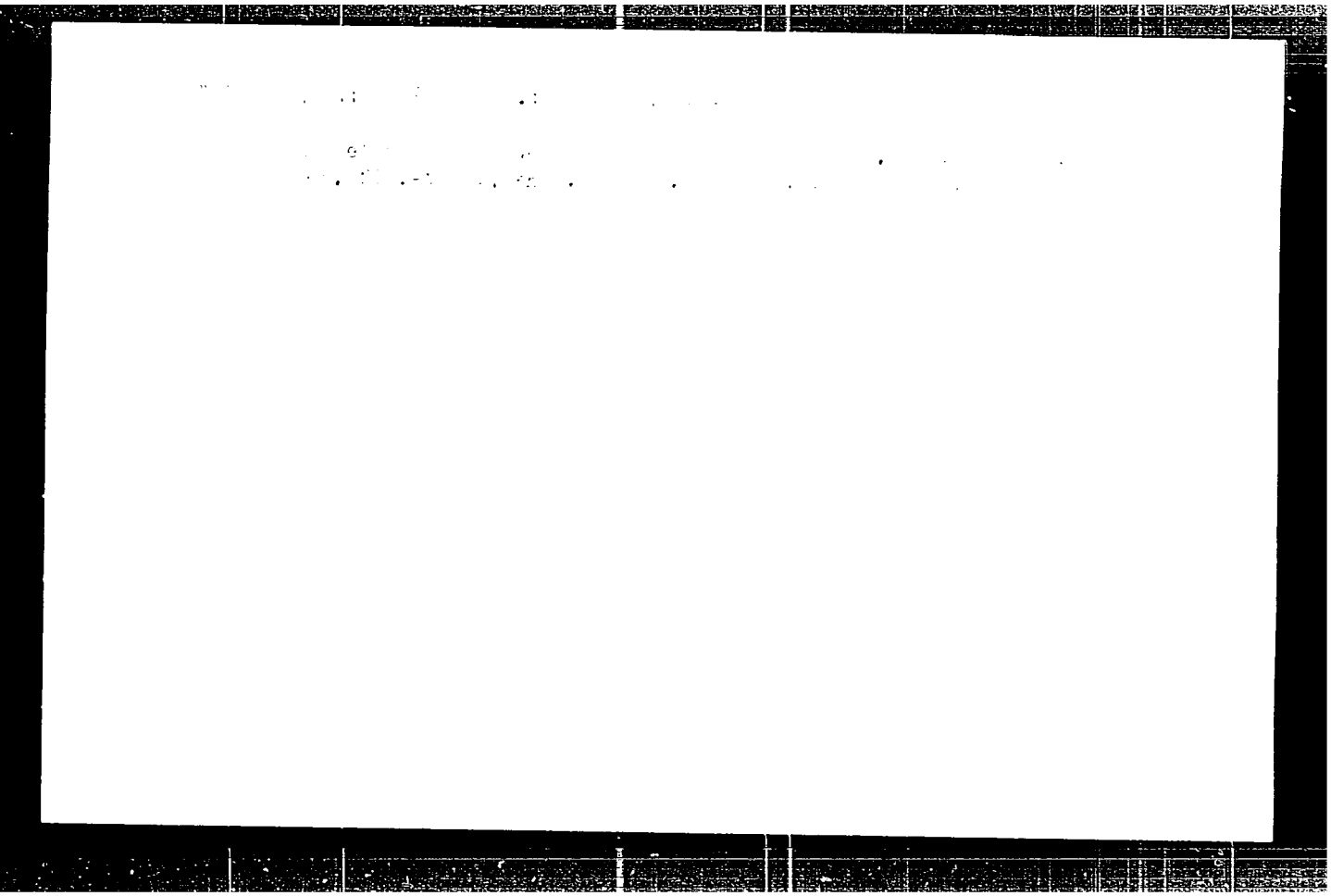
The low input resistance of the Hall generator permits the use of a noiseless transformer with a large transmission coefficient (750--2500), depending on the number of turns of the primary and secondary windings. The core is made of 79 NM Permalloy with a magnetic permeability coefficient of 130,000 g/oe. The transformer has three windings: w_1, 7 turns; w_1', 9 turns; w_2, 7500 turns. Power supply for the Hall generator is from a 1-kc electronic generator.

L 24111-66
ACC NR: AT6004291

The input unit, together with some of the other units, is carefully screened. Both the screening and the use of a synchronous detector in the electronic section of the magnetometer have made it possible to increase its sensitivity to 0.008 μv. Weak magnetic fields of the order of 10^{-8} oe can be measured with great accuracy. A further increase in the sensitivity can be obtained by increasing the magnetic field concentration and by improving the output indicator circuit. Orig. art. has: 1 figure, 2 tables, and 1 formula. [FSB: v. 2, no. 4]

SUB CODE: 09, 20 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 002

Card 4/4



DZHEMILEV, G.G.; YEROFEYEV, N.M.; PERELYGIN, V.P.; PETINOV, V.P.

Studies of structural inhomogeneities and drifts in the ionosphere over Ashkhabad at altitudes of 200 to 400 km. conducted under the programs of the International Geophysical Year and International Geophysical Cooperation during 1958-1959. Trudy fiz.-tekh. inst. AN Turk. SSR 8:175-200 '62. (MIRA 15:11)
(Ashkhabad--Ionospheric research)

PHASE I BOOK EXPLOITATION SOV/5335

Akademiya nauk SSSR. Mezhduvedomstvennyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. V rabochaya programma MGG: Ionosfera.

Dreyfy i neodnorodnosti v ionosfere (Drifts and Inhomogeneities in the Ionosphere) Moscow, Izd-vo AN SSSR, 1959. 69 p. (Series: Sbornik statey, no. 11) 1,500 copies printed. Added t. p.: Drifts and Irregularities in the Ionosphere.

Resp. Ed.: S. F. Mirkotan; Ed.: A. D. Podol'skiy; Tech. Ed.: V. V. Brugul'.

PURPOSE: The publication is intended for geophysicists, meteorologists, and communications specialists.

COVERAGE: This collection of 6 articles presents the results of investigations of drifts and inhomogeneities in the ionosphere, according to observations made at the Ashkhabad, Moscow, Tomsk, and Khar'kov stations during the 1957-1958 period. The fact that these stations are geographically situated at different latitudinal and longitudinal coordinates is of importance for the comparison of observational results presented in individual articles. An English résumé accompanies each article. No personalities are mentioned. References follow the articles.

TABLE OF CONTENTS:

L 23099-65 EWT(1)/EWA(h) Peb AFWL/SSD/AS(mp)-2/AFMDC/ESD(gs)/ESD(t)

ACCESSION NR: AP4049436 S/0202/64/000/005/0030/0037

AUTHOR: Sukhanov, S. , Nazarova, G., Petinov, V. P.

TITLE: Hall-effect magnetometer for weak fields

SOURCE: AN TurkmSSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh i geologicheskikh nauk; no. 5, 1964, 30-37

TOPIC TAGS: weak magnetic field, Hall effect, magnetometer, indium antimonide detector, Hall detector, amplification factor, magnetic field concentrator

ABSTRACT: The authors studied a high-sensitivity magnetometer which they designed and used to measure very weak constant magnetic fields. The construction and electric and magnetic characteristics of the indium antimonide Hall detector and the construction of the entire magnetometer are described at length. The input stage of the magnetometer is discussed, and circuit diagrams are given. Amplification factors of concentrators made of Armco iron, permalloy, and ferrite were measured. It was found that magnetic fields of the order of 10^{-6} Oersteds could be measured with great precision for a magnetometer sensitivity of 6.54×10^{-8} Oersteds. A further increase in the sensitivity of the magnetometer could be achieved by increasing the concentration of the magnetic field in the

Card 1/2

L 21099-65

ACCESSION NR: AP4049436

magnetic circuit. Orig. art. has: 3 figures and 5 formulas.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00 SUB CODE: EM

NO REF SOV: 005 OTHER: 002

Card 2/2

YEROFEYEV, N.M.; PETINOV, V.P.; SHIRMAMEDOV, M.

Recorder for measuring ionospheric radio wave absorption. Izv.AN Turk.SSR.Ser.fiz.-tekh., khim.i geol.nauk no.3:115-117 '63. (MIRA 17:3)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.

YEROFEYEV, N.M.; DZHEMILEV, G.G.; PERELYGIN, V.P.; PETINOV, V.P.

First results of radiotechnical observations of the movement of irregularities (winds) in the ionosphere over Ashkhabad at the altitude of 200-300 kilometers. Dreify i neodn. v ionosf. no.1: 34-39 '59. (MIRA 13:1)

(Ionosphere)

BELOUS, A.T.; PETINOV, V.P.

Feasibility of contactless measurement of the thickness of glass. Izv.AN Turk.SSR.Ser.fiz.-tekh., khim.i geol.nauk no.3:13-19 '63. (MIRA 17:3)

1. Fiziko-tekhnicheskiy institut AN Turkmenskoy SSR.

87466

3/169/60/000/012/[illegible]/[illegible]
A005/A001

9.9842
9.9160 (1041, 1060)

Translation from: Referativnyy zhurnal, Geofizika, 1960, No. 12, pp. 216-21[illegible].
16258

AUTHORS: Yerofeyev, N. M., Dzhemilev, G. G., Perelygin, V. P., Petinov, V. P.

TITLE: First Results of Radiotechnical Observations of the Motions of Non-uniformities in the Ionosphere (Winds) Over Ashkhabad at Altitudes of 200-300 km

PERIODICAL: V sb.: Dreyfy i neodnordnosti v ionosfere. No. 1, Moscow, AN SSSR, 1959, pp. 34-39 (English summary)

TEXT: Experimental results are presented of a study of the winds in the ionosphere by the spaced reception method with small base, which was performed at Ashkhabad in the period from January 1 to June 30, 1958. The equipment is briefly described (output 2 kw in the pulse, pulse duration 150 μsec, base of the reception antenna system 100 m, photographical recording, film feed speed 15 cm/min). The processing of the records was carried out by the similar-fading method; it is shown that 20-30% of the observations yield to processing by this method. The distribution of nonuniformity drift speeds in the F region is of approximately

Card 1/2

87466
S/169/60/000/012/004/[illegible]
A005/A001

First Results of Radiotechnical Observations of the Motions of Nonuniformities in the Ionosphere (Winds) Over Ashkhabad at Altitudes of 200-300 km

Maxwellian from. The average arithmetical and the observed probable values of the drift speed are 69 and 58 m/sec respectively. The preferred motion direction is westward. The diurnal course of the velocity vector components is weakly expressed, but shows the tendency to predominating 24-hours-period. - There are 10 references.

E. S. Kazimirovskiy

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

Card 2/2

PETIPA, T.S.

Diurnal rhythm in the feeding of the copepod Acartia clausi Giesbr. Dokl. AN SSSR 120 no. 4:896-899 Je '58. (MIRA 11:8)

1. Sevastopol'skaya biologicheskaya stantsiya im. A.O.Kovalevskogo AN SSSR. Predstavleno akademikom Ye.N.Pavlovskim.
(Copepoda)

USSR / Cultivated Plants. Cereal Crops. M-3

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58529

Author : Petinov, N. S.; Volkov, I. A.; Peshekhonov, N. F.
Inst : Not given
Title : The Development of the Root System of Summer Wheat in Case of Subsoil Irrigation

Orig Pub : V sb.: Oroshenive s.-kh. kul'tur v Tsentr.-chernozem. polose RSFSR, vyp 2, M., AN USSR, 1956, 296-304

Abstract : The root system of Lyutestsens 62 summer wheat subjected to subsoil irrigation, effected with the aid of "mole drains", was studied in field experiments which took place in the Kursk ZOMS. Mole drains, which improve the aeration of the soil, influence favorably the growth of roots both with and without irrigation. The influence of the mole drains increases proportionally with the depth of the soil. The drainage of the non-irrigated sector increased the

Card 1/2

PETINOV, Nikolay Stepanovich, doktor biolog.nauk; GENKEL', P.A., doktor biolog.nauk, otv.red.; IVANOV, V.P., red.izd-va; KASHINA, P.S., tekhn.red.

[Physiology of irrigated wheat] Fiziologiia oroshaemoi pshenitsy. Moskva, Izd-vo Akad.nauk SSSR, 1959. 553 p. (MIRA 13:1)
(Wheat) (Irrigation farming)

PETIPA, T.S.

Nutrition of young commercial and noncommercial fishes of the Mius Liman. Trudy Gidrobiol.ob-va no.6:110-121 '55. (MLRA 8:9)

1. Rostovskiy na Donu gosudarstvennyy universitet imeni V.M.Molotova.

(Mius Liman--Fishes--Food)

PETIPA, T.S.

Observations on the behavior of zooplankton during a solar eclipse.
Dokl. AN SSSR 104 no.2:323-325 S '55. (MLRA 9:2)

1.Sevastopol'skaya biologicheskaya stantsiya Akademii nauk SSSR.
Predstavleno akademikom Ye.N.Pavlovskim.
(Sevastopol, Bay of--Plankton)

B

USSR / General Biology. General Hydrobiology.

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14473

Author : Petipa, T. S.
Inst : Sevastopol' Biological Station, Academy of Sciences SSR
Title : The Average Weight of the Basic Forms of the Zooplankton of the Black Sea

Orig Pub : Tr. Sevastopol'sk. biol. st. AN SSSR, 1957, 9, 39-57

Abstract : The average formalin weight of basic forms of zooplankton in various size groups including a series of pelagic larvae of present invertebrates was established by direct weighing and on the basis of lineal measurements with subsequent calculations of their volume. -- N. I. Kashkin

Card 1/1

PETIPA, T. S.

Fat metabolism in Calanus helgolandicus (Claus) under experimental conditions. Dokl. AN SSSR 155 no. 2:470-473 Mr '64. (MIRA 17:5)

1. Institut biologii yuzhnykh morey AN UkrSSSR. Predstavleno akademikom Ye. N. Pavlovskim.

AUTHOR: Petipa, T. S. SOV/20-120-4-58/67

TITLE: On the Night-and-Day Feeding Rhythm of the Copepode Acartia clausi Giesbr. (O sutochnom ritme v pitanii veslonogogo rachka Acartia clausi Giesbr.)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 4, pp. 896-899 (USSR)

ABSTRACT: This species is one of the species of copepodes occurring in great quantities in the Black Sea (Chernoye more) and in the Azov Sea (Azovskoye more) and serves as food for several pelagic fish and their offspring. Hence, a study of their feeding is necessary to uncover the feeding relations between the phyto- and zooplankton and the fish feeding on plankton. As the first observations showed, that Acartia is not a filtrator but an active grasper, the entire feeding process was continuously observed immediately. A culture of dinoflagellantes was added to the filtered sea water. Then the crustacees in a nauplius and a copepode stage were admitted. Each experiment consisted of a 24-hours' observation. A judgment as to the quantity of food was possible according to the amount of food swallowed and of excrement disposed of. It appeared, that grown-up crustacees feed

Card 1/3

throughout the 24-hour period, whereas the nauplia only feed during hours of daylight. The intensity of feeding, however, is not the same in all age groups. Grown-up animals, mainly females and grown-up stages of copepodes exhibit two maxima of feeding intensity: in the first half of the day and in the night. The nauplia feed most intensively in the first half of the day. From early dawn to from 1300 to 1500 hours mostly, more rarely to 1700 hours. A judgment on the feeding rhythm can also be passed according to the duration of the digestion process. In the day the phytoplankton is eaten by the copepodes. In comparing the night- and day intensity of feeding of A. clausi this tendency of different age groups was uncovered, which is connected with their migration capability (Fig 2). The more intensely they migrate, the more intensely they feed in the night A. clausi inhabits the upper water layers, it migrates, however, in the course of night and day within the inhabited layer. This type of migration is dependent upon light conditions. The copepode stages migrate more actively than the nauplia. The male animals are constantly in a somewhat lower layer than the females. The modification of the feeding rhythm and of the migrations with-

On the Night-and-Day Feeding Rhythm of the Copepode Acartia clausi Giesbr. SOV/20-120-4-58/67

in a 24 hours' interval permits a better utilization of the food available. The migrations are not determined in any way and may vary at different times even during the same stage of development. There are 2 figures and 10 references, 6 of which are Soviet.

ASSOCIATION: Sevastopol'skaya biologicheskaya stantsiya im. A.O. Kovalevskogo Akademii nauk SSSR (Sevastopol' Biological Institute imeni A.O. Kovalevskiy AS USSR)

PRESENTED: February 10, 1958, by Ye.N. Pavlovskiy, Member, Academy of Sciences, USSR

SUBMITTED: November 29, 1957

1. Crustacea—Nutrition 2. Crustacea—Ecology 3. Crustacea —Black Sea

Card 3/3 TITLE: Copepoda

PETIPA, T.S.; SAZHINA, L.I.; DELALO, Ye.P.

Distribution of zooplankton in the Black Sea in 1951-1956. Okeanologiia 3 no.1:110-122 '63. (MIRA 17:2)

1. Sevastopol'skaya biologicheskaya stantsiya AN SSSR.

PETIPA, T.S.

Feeding of the copepod Acartia clausi Giesbr. Trudy SBS 11: (MIRA 13:5)
72-100 '59.
(Black Sea--Copepoda)

PETIPA, T.S.

Feeding of Acartia clausi Giesbr. and A. latisetosa Kritcz. in the Black Sea. Trudy SBS 12:130-152 '59. (MIRA 14:10)
(BLACK SEA--COPEPODA)

PETIPA, T.S.

Role of the flagellate Noctiluca miliaris Sur. in the nutrition of Calanus helgolandicus Claus. Dokl.AN SSSR 132 no.4:961-963 Je '60. (MIRA 13:5)

1. Sevastopol'skaya biologicheskaya stantsiya im. A.O. Kovalevskogo Akademii nauk SSSR. Predstavleno akademikom Ye.N.Pavlovskim.
(Black Sea--Copepoda)
(Black Sea--Flagellata)
(Animals, Food habits of)

PETIPA, T.S.; SAZHINA, L.I.; BELALO, Ye.P.

Vertical distribution of zooplankton in the Black Sea as related to the hydrogeological conditions. Dokl.AN SSSR 133 no.4:964-967 Ag '60. (MIRA 13:7)

1. Sevastopol'skaya biologicheskaya stantsiya imeni A.O. Kovalevskogo Akademii nauk SSSR. Predstavleno akademikom Ye.N. Pavlovskim.

(Black Sea--Zooplankton)

PETIPA, T. S.

...al grazing of phytoplankton in the Black Sea by the ...epod ...innus helgolandicus (Claus). Zool. zhur. 44 no.6:844-854 '65. (MIRA 18:10)

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