

SAVCHENKOV, I.I.

On the roentgen-radiodiagnostic method for examining the esophagus
and stomach in tumors and other diseases. Vest. rent. 1 rad. 35
no. 5:49-55 S-0 '60. (MIRA 13:12)

1. Iz Instituta terapii (dir. - deystvitel'nyy chlen AMN SSSR
prof. A.L. Myasnikov) AMN SSSR.
(STOMACH—RADIOGRAPHY) (ESOPHAGUS—RADIOGRAPHY)

VASIL'YEV, L.I.; SAVCHENKO, I.I. (Moskva)

Intravital diagnosis of coarctation of the aorta. Sov. med.
25 no.4:129-133 Ap '62. (MIRA 15:6)

1. Iz klinicheskoy bol'nitsy No.6 (glavnyy vrach I.N. Kurgannikov).
(AORTA—DISEASES)

SAVCHENKO, I.L.

Some measures for improving the efficiency of fiber separation
in roller gins. Izv.Otd.est.nauk AN Tadzh.SSR no.22:123-144 '57.
(MIRA 11:8)

1.Khlopkoochistitel'naya promyshlennost' Tadzhikskoy SSR.
(Cotton gins and ginning)

SAVCHENKO, I.M.; SYROMYATNIKOV, S.S.

Shuttle stand for making multi-hollow reinforced concrete floor
panels. Mekh.trud.rab. 9 no.11:39-41 N '55. (MIRA 9:2)

1.Glavnyy inzhener Glavdal'stroya (for Savchenko).2.Glavnyy mekhanik
Glavdal'stroya (for Syromyatnikov)
(Floors, Concrete)

SAVCHENKO, I.M.,
SAVCHENKO, I.M.; SYROMYATNIKOV, S.S.; IGNATOV, G.T.

Assembly line used in manufacturing hollow reinforced concrete
panels with common reinforcement. Rats. i izobr. predl. v stroi.
no.3:5-8 '57. (MIRA 11:1)

(Concrete slabs)

ACCESSION NR: AR4014947

S/0271/63/000/012/B056/B056

SOURCE: RZh. Avt., tel. i vy*ohisl. tekhnika, Abs. 12B325

AUTHOR: Ofengenden, R. G.; Savchenko, I. M.; Rozentel', O. M.; Shaleyko, M. A.

TITLE: Devices and elements of two-dimensional pulse analyzers

CITED SOURCE: Tr. 5-y Nauchno-tekhn. konferentsii po yadern. radioelektronike.
T. 2. Ch. 2. M., Gosatomizdat, 1963, 108-114

TOPIC TAGS: pulse analyzer, two-dimensional pulse analyzer, computer circuit

TRANSLATION: The authors describe individual standard circuits with semiconductor triodes and memory units with magnetic drums which are employed in 2-dimensional pulse analyzers. The standard circuits, which include two types of saturated triggers with actuation frequencies of 250 kc and 2 mc, and pulse amplifiers using standard cells with a 46 x 91 mm printed circuit chassis are used in constructing the conversion circuits of trigger registers. The described magnetic drums contain 4, 12, or 70 recording tracks, employ ferrite magnetic heads, and rotate at the rate of 12,000 rpm. Six illustrations. Bibliography with one title. I.V.

Card 1/2

ACCESSION NR: AR4014947

DATE ACQ: 09Jan64

SUB CODE: CP, GE

ENCL: 00

Card 2/2

ACC NR: AP6022000

SOURCE CODE: UR/0120/66/000/003/0077/0081

AUTHOR: Ofengenden, R. G.; Savchenko, I. M.; Shaleyko, M. A.

ORG: Physics Institute, AN UkrSSR, Kiev (Institut fiziki AN UkrSSR)

TITLE: A high speed periodic memory unit with simultaneous reading and recording

SOURCE: Pribery i tekhnika eksperimenta, no. 3, 1966, 77-81

TOPIC TAGS: computer storage device, magnetic drum, computer component, circuit design

ABSTRACT: A high-speed magnetic drum memory unit is described in which reading and recording operations are performed simultaneously from two different addresses. The shift between reading and recording addresses is equal to 16 discrete digits over the surface of the drum (80 msec). The period of the memory unit is 5 msec (12000 rpm). The number of tracks is 78, of which 3 are synchronizing, 64 are operating, 6 are designed for dynamic data storage, and the remaining tracks are used for the selection of stored data. Twin heads with equal spacings between the leading slots are mounted on 72 tracks. A twin head represents two heads, i.e., a reproducing head and a recording head. The spacing between the leading head slots is 4.98 mm. The heads are mutually isolated thus permitting simultaneous reading and recording operations. The diameters (100 mm) of the drum is chosen so that a total of 1024 binary digits can be placed over its surface. Pulse amplifiers assure the formation of short gating

UDC: 681.142,65

Card 1/2

ACC NR: AP6022000

pulses for the same angular positions of the drum regardless of its rotation. The ratio of voltage amplitudes of reproduced signals 1 to 0 is better than 4. The storage control units are fully transistorized. Orig. art. has: 6 figures.

SUB CODE: 09/ SUBM DATE: 28May65/ ORIG REF: 008/ OTH REF: 004

Card 2/2

SAVCHENKO, I.N. uchitel'.

Excursion to a collective dairy farm. Est. v shkole no.3:55-59 My-Je '53.
(MLRA 6:5)

1, Yam-Posadskaya semiletnyaya shkola, Alatyrskiy rayon, Chuvashskaya ASSR.
(Dairying) (School excursions)

SAVCHENKO, I.N.

Practical work of school children in stockbreeding. Est.v shkole
no.1:61-62 Ja-F '56. (MIRA 9:5)

1. Uchitel' Yam-Posadskoy semiletney shkoly Alatyrskogo rayona
Chuvashskoy ASSR.
(Stock and stockbreeding--Study and teaching)

LYASHCHINSKIY, B.I.; PONOMARENKO, Ye.P.; SERDYUK, V.Ye.; NAGORNEY, M.A.;
SAVCHENKO, I.P.

Automation of technological processes in the production of electrodes.
Mashinostroitel' no.8:10-11 Ag '64. (MIRA 17:10)

YUR'YEV, V.N., starshiy tekhnolog; SAVCHENKO, I.T., starshiy teplotekhnik

We received the TEM2 diesel locomotive. Elek.i tepl.tiaga
6 no.4:6 Ap '62. (MIRA 15:5)

1. Lokomotivnoye depo im. Il'icha, Moskva (for Yur'yev).
(Diesel locomotives--Testing)

BATIN, O.V.; TUZINSKIY, A.G.; YEFREMOV, A.G.; SAVCHENKO, I.V.

Drawing 100,753 tons of anthracite in one month from plow-mined long-walls. Ugol' 40 no.6;12-15 Je '65. (MIRA 18:7)

1. Shakhta "Yuzhnaya" No.1 tresta Shakhtantratsit kombinata Rostovugol'.

SAVCHENKO, Ivan Vasil'yevich, brigadir YURCHENKO, V.I., red.

[Path toward a world record; our experience in mastering
the use of coal plows] Put' k mirovomu rekord; nash opyt
osvoeniia ugol'nogo struga. Rostov-na-Donu, Rostovskoe
knizhnoe izd-vo, 1965. 25 p. (MIRA 18:8)

1. Strugovaya lava No.1006 shakhty "Yuzhnaya No.1" kombinata
Rostovugol' (for Savchenko).

Savchenko, I. 1/2
SAVCHENKO, I.Ya., kand.ped.nauk

M.I.Kalinin on technical education and work education. Politekh.
obuch.no.12:10-14 D '57. (MIRA 10:12)
(Technical education) (Kalinin, Mikhail Ivanovich, 1875-1946)

PASECHNIK, Nikolay Dmitriyevich [Pasichnyk, M.D.]; SAVCHENKO,
L.Ya., red.

[Elementary electrical engineering] Elementarna elektro-
tekhnika. 2. vyprav. i dop. vyd. Kyiv, Derzhtekhvydav
URSR, 1961. 219 p. (MIRA 18:6)

BORDUKOV, I.V.; KOROBOV, V.A.; SAVCHENKO, I.Ye.

The problem of a thorough improvement of Moscow's city and suburban communications. Gor.khoz.Mosk. 29 no.2:11-17 F '55. (MIRA 8:5)
(Moscow--Radio tranzit)

SAVCHENKO, I.Ye., kandidat ekhnicheskikh nauk.

Using steeper than ruling grades on separate parts of the railroad
route. Transp.stroi. 6 no.9:20-22 S '56. (MIRA 9:11)
(Railroads--Grades)

SAVCHENKO, I.Ye., kandidat tekhnicheskikh nauk.

Determining the number of receiving and departure tracks for
stations. Zhel. dor. transp. 38 no.9:61-65 S '56. (MLRA 9:10)

(Railroads--Stations)

SAVCHENKO, I.Ye., kandidat tekhnicheskikh nauk, dotsent.

Theory and norms for calculating the width of passenger platforms.
Trudy MIIT no.87/88:122-147 '56. (MLA 10:8)
(Railroads--Stations)

SAVCHENKO, I.Ye., ~~kandidat~~ tekhnicheskikh nauk.

Efficient plans for way stations and sidings. Transp. stroi. 7 no.1:20-
23 Ja '57. (MLRA 10:3)

(Railroads--Stations)

SAVCHENKO, I.Ye., kand.tekhn.nauk

Redesigning railroad yards used for passenger traffic. Zhel. dor.
transp. 40 no.8:33-36 Ag '58. (MIRA 11:9)
(Railroads--Yards) (Railroads--Passenger traffic)

IOANNISYAN, A.I., prof.; GORINOV, A.V., prof.; AKIMOV, V.I., kand.tekhn.
nauk; KANTOR, I.I., kand.tekhn.nauk; KONDRATCHENKO, A.P., kand.
tekhn.nauk; SAVCHENKO, I.Ye., kand.tekhn.nauk; TURBIN, I.V., kand.
tekhn.nauk; VLASOV, D.I., inzh., red.; KHITROV, P.A., tekhn.red.

[Problems in the planning of railroads with electric and diesel
traction] Voprosy proektirovaniia zheleznykh dorog s elektri-
cheskoi i teplovoznoi tiagoi. Moskva, Gos.transp.zhel-dor.izd-vo.
1959. 255 p. (MIRA 13:3)

1. Chlen-korrespondent AN SSSR (for Gorinov).
(Railroad engineering)

SAVCHENKO, Ivan Yefimovich, kand.tekhn.nauk; SKALOV, Konstantin
Iur'yevich, kand.tekhn.nauk; PREDE, V.Yu., red.; KHITROV,
P.A., tekhn.red.

[Expansion of railroad stations and junction points] Razvitie
zheleznodorozhnykh stantsii i uzlov. Moskva, Vses.izdatel'sko-
poligr.ob"edinenie M-va putei soobshcheniia, 1960. 295 p.
(MIRA 14:4)

(Railroads--Stations)

(Railroads--Construction)

SAVCHENKO, Ivan Yefimovich, kand. tekhn. nauk; ZEMBLINOV, Sergey
Vladimirovich, doktor tekhn. nauk; STRAKOVSKIY, Isaak
Izrailevich, kand. tekhn. nauk; TSARENKO, A.P., inzh., red.;
MEDVEDEVA, M.A., tekhn. red.

[Railroad stations and junctions] Zheleznodorozhnye stantsii i
uzly. [By] I.E. Savchenko i dr. Moskva, Transzheldorizdat,
1962. 410 p. (MIRA 16:2)

(Railroads—Stations)

SAVCHENKO, I. V., kand. tekhn. nauk

Basic problems of the reconstruction of the Moscow Terminal. Zhel.
dor. transp. 46 no. 11: 50-54 N° 64. (MIRA 18:1)

PRAVDIN, Nikolay Vladimirovich, kand. tekhn. nauk, dots.;
BANEK, Tamara Semenovna, kand. tekhn. nauk, dots.;
TSIKUNOV, Anton Yefimovich, kand. tekhn. nauk, dots.;
YARMOLENKO, Vasilii Yefimovich, kand. tekhn. nauk,
dots.; SAVCHENKO, I.Ye., kand. tekhn. nauk, red.

[Passenger stations and coach yards] Passazhirskie i
tekhnicheskie stantsii. Moskva, Transport, 1965. 223 p.
(MIRA 18:7)

DOROCHENKO, M.G.; SHMUKLER, M.Ya.; SAVCHENKO, Kh.; POTUPIN, A.M.

Our methods for welding and transporting long rail lengths. Put'
i put.khoz. 4 no.11:20-23 N '60. (MIRA 13:12)

1. Nachal'nik RSP-16, st.Dublyany-Lyashki, L'vovskoy dorogi (for
Dorochenko). 2. Priyemshchik, st. Lublyany-Lyashki, L'vovskoy
dorogi (for Shmukler). 3. Glavnyy inzh.sluzby puti, g. L'vov (for
Savchenko). 4. Starshiy inzh.sluzhby puti, g. L'vov (for Potupin).
(Railroads--Rails)

SAVCHENKO, K.N.

On the nature of gravitation. Izv. Astron. obser. 2 no.1:43-58 '49.
(Gravitation) (MLRA 7:9)

SAVCHENKO, K.M.

"Some Questions of Nonclassical Celestial Mechanics and Cosmogony" Sb. Matem.
Otd. Fiz.-Matem. Fak-ta. Odessk. un-ta, Vol 5, 1953, 59-147

The author examines several questions of the theory of motion of bodies with variable masses and the theory of motion of the theory of motion in a resistant medium. These questions are of importance in cosmogony. The ~~atx~~ author considers a special case of the variable mass three body problem and shows that the lagrange solution exists if the mass ~~of~~ ratio of the components of the system remains constant. He considers the two body problem in a resistant medium. Applying these concepts to the theory of motion of the asteroids, he comes to the conclusion that the asteroids were formed after the planets. (RZhMekh, No 9, 1955)

SAVCHENKO, K.N.

BASHTANNIK, Kirill Georgiyevich [deceased]; D'YAKONOV, V.F., nauchnyy redaktor; SAVCHENKO, K.N., nauchnyy redaktor; IVANOV, K.A., redaktor izdatel'stva; TIKHONOVA, Ye.A., tekhnicheskiiy redaktor

[Nautical astronomy] Morekhodnaia astronomiia. Moskva, Izd-vo
"Morskoi transport," 1956. 318 p. (MLRA 10:4)
(Nautical astronomy)

1. SAVCHENKO, L.
2. USSR (600)
4. Medicine, Industrial
7. First aid station. Sov. kras. krest 3, No. 1, 1953.

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

SAVCHENKO, L.

KORPUSNOVA, A.; SAVCHENKO, L.; KALMYKOVA, K.

[Sanitation room in an enterprise] Sanitarnyi post na predpiatii.
Moskva, Medgiz, 1955. 2. p. (MIRA 10:5)
(INDUSTRIAL HYGIENE)

BIBLINA, B.I.; KIRILLOVA, E.N.; SAVCHENKO, L.F.

Some characteristics of metabolism in young and old grapevines.
Vop.fiziol.i biokhim.kul't.rast. no.1:90-96 '62. (MIRA 16:1)
(Grapes) (Plants--Metabolism)

SAVCHENKO, L.G.

Experience in antituberculosis work under rural conditions. Probl.
tub. no.6:13-14 N-D '54. (MLRA 8:1)

1. Rayonnyy ftiziatr Vasil'kovskogo rayona Dnepropetrovskoy
oblasti.

(TUBERCULOSIS, prevention and control
in Russia, rural areas)

SAVCHENKO, L.P.

Helminth invasion in the etiology and course of epilepsy in children.
Med. paraz. i paraz. bol. 27 no.4:414-419 JI-Ag '58. (MIRA 12:2)

1. Iz Instituta malyarii i meditsinskoy parazitologii Ministerstva
zdravookhraneniya RSFSR (dir. - instituta - prof. S.N. Pokrovskiy) i klini-
ki nervnykh bolezney i neyrokhirurgii Rostovskogo-na-Donu meditsinskogo
instituta (zav. - klinikoy - prof. V.A. Nikol'skiy).

(EPILEPSY, in infant and child,
caused by helminth infect. (Rus))

(HELMINTH INFECTIONS, in inf. & child,
causing epilepsy (Rus))

14-8

USSR/Cultivated Plants - Fruits, Berries.

Abs Jour : Ref Zhur - Biol., No 9, 1950, 39506

Author : Lunina, I.V., Savchenko, L.F.

Inst : Kuban Agricultural Institute

Title : The Influence of the Removal of Sprouts on the Yield of Strawberries.

Orig Pub : Sb. nauch. rabot Kubansk. s.-kh. in-t, 1956 (1957), vyp. 1, 73-75.

Abstract : The removal of sprouts from strawberries during the period of fruit bearing contributed to the growth of shrubs and to the formation of a great number of "little hearts". In the "Stepnaya" variety the number of "hearts" increased from 3.4 to 8.5 per shrub. In the "Aromat Kubani" variety it increased from 2.7 up to 4.9, and in the No 109-6 variety, it went up from 3.5 to 6.3.

Card 1/2

LOSEV, David Platonovich; POLISAR, Grigoriy Leyzerovich; FILIMONOV,
Yuriy Polikarpovich; AFOSHIN, A.N., kand. tekhn.nauk, retsen-
zent; SAVCHENKO, L.T., inzh., retsenzent; SMIRNOV, A.S., kand.
tekhn. nauk, nauchnyy red.; LESKOVA, L.R., red.; KRYAKOVA, D.M.,
tekhn. red.

[Elements and networks of contactless remote control devices]
Elementy i uzly beskontaktnykh telemekhanicheskikh ustroystv.
Elementy i uzly beskontaktnykh telemekhanicheskikh ustroystv.
Leningrad, Sudpromgiz, 1962. 246 p. (MIRA 15:12)
(Remote control) (Pulse techniques (Electronics))

VERKHOPYATNITSKIY, Pavel Dmitriyevich; SAVCHENKO, L.T., inzh.,
retsenzent; TURKIN, V.I., kand. tekhn. nauk, retsenzent;
AVERKIYEV, L.S., nauchn. red.; NIKITINA, M.I., red.;
KOROVENKO, Yu.N., tekhn. red.

[Electrical elements of automatic-control systems] Elek-
tricheskie elementy avtomatiki. Leningrad, Sudpromgiz,
1963. 534 p. (MIRA 16:11)
(Automatic control) (Electricity on ships)
(Electric apparatus and appliances)

SAVCHENKO, L.V. (Tomsk, ul. Belinskogo, 27, kv.2)

Macro-microscopic innervation of Botallo's duct. Arkh. anat. gist.
i embr. 41 no.10:107-109 0 '61. (MIRA 14:12)

1. Kafedra topograficheskoy anatomii i operativnoy khirurgii (zav. -
prof. V.T. Serebrov) i kafedra gistologii (zav. - prof. A.M. Khlopkov)
Tomskogo meditsinskogo instituta.
(DUCTUS ARTERIOSUS__INNERVATION)

SMIRNOVA, I.V.; TOPCHYEVA, K.V.; KUBASOV, A.A.; SAVCHENKO, L.V.

Adsorption of methylcyclohexene from solutions at elevated temperature. Dokl. AN SSSR 147 no.3:660-662 N '62. (MIRA 15:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
Predstavleno akademikom P.A. Rebinderom.
(Cyclohexene) (Adsorption)

MARALIN, Georgiy Aleksandrovich; SAVCHENKO, L.Ya., red.; SYOHUGOV,
V.G., tekhn.red.

[Saving of electric power in the operational needs of a
thermal electric power plant] Ekonomiya elektroenergii na
sobstvennye nuzhdy teplovoi elektrostansii. Kiev, Gos.izd-vo
tekhn.lit-ry USSR, 1961. 91 p. (MIRA 15:2)
(Electric power plants--Management)

KOLOBKOV, Pavel Sergeyevich; SAVCHENKO, L.Ya., red.; GORKAVENKO, L.I.,
tekh. red.

[Making use of the steam from the evaporation cooling of metallurgical furnaces] Ispol'zovanie para isparitel'nogo okhlazhdeniia metallurgicheskikh pechei. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1961. 83 p. (MIRA 15:3)

(Metallurgical furnaces--Cooling)
(Waste-heat engines)

KAPLAN, Marlen Pavlovich; SAVCHENKO, L.Ya., red.; STARODUB, T.A., tekhn.
red.

[Analysis of the layout of gas-turbine units for electric power
plants] Analiz skhem gazoturbinykh ustanovok dlia elektro-
stantsii. Kiev, Gostekhzdat USSR, 1962. 109 p. (MIRA 15:9)
(Electric power plants--Equipment and supplies)
(Gas turbines)

SVIREN, Stepan Yakovlevich; SAVCHENKO, L.Ya., red.; STARODUB, T.A.,
tekhn. red.

[Electric power plants, substations, and power distribution net-
works]Elektricheskie stantsii, podstantsii i seti; posobie po
kursovomu i diplomnomu proektirovaniu. Kiev, Gos. izd-vo
tekhn. lit-ry USSR, 1962. 307 p. (MIRA 16:1)
(Electric power plants) (Electric substations)
(Electric power distribution)

PASECHNIK, Nikolay Dmitriyevich; SAVCHENKO, L.Ya., red.; MATUSEVICH,
S.M., tekhn. red.

[Elementary electrical engineering] Elementarnaia elektrotekh-
nika. 7., stereotipnoe izd. Kiev, Gostekhizdat USSR, 1963. 233 p.
(MIRA 16:6)

(Electric engineering)

POLOTSKIY, L.M., kand.tekhn.nauk; GERSHKOVICH, B.M., inzh.; SAVCHENKO, L.Yu., inzh.

Device for determining the resistance of materials to breaking up
by crushing and grinding. Stroi. i dor. mash. 8 no.5:27-28
My '63. (MIRA 16:5)

(Milling machinery)

ACC NR: AP6029085

(A)

SOURCE CODE: UR/0413/66/000/014/0158/0158

INVENTOR: Gershkovich, B. M.; Savchenko, L. Yu.

ORG: None

TITLE: An instrument for determining the coefficient of friction of plastics. Class 42, No. 140259

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 158

TOPIC TAGS: friction coefficient, plastic

ABSTRACT: This Author's Certificate introduces: 1. An instrument for determining the coefficient of friction of plastics with a measurement parallelogram for the friction tangent and normal pressure on the specimen. The instrument is designed for accurate readings of the coefficient of friction under industrial conditions of plastic processing at high temperatures and various rotational velocities of the working mechanisms. The measurement parallelogram is made with guides along which it may be moved, and a friction disc is mounted on a single axis with a worm wheel for synchronous motion. 2. A modification of this instrument in which a mandrel with the specimen mounted on it and the friction disc are equipped with a heater interlocked with a thermostat. 3. A modification of this instrument in which the measurement scale of the parallelogram has a rheostat for automatically transmitting the friction tangent readings to a secondary instrument.

SUB CODE: 14, 20/ SUBM DATE: 24Feb61

Card 1/1

SAVCHENKO, M., starshiy master- instruktor, michman

Without tying up at a dock. Starsh.-serzh. no.8:37 Ag '62.
(Ships--Maintenance and repair) (MIRA 15:8)

SAVCHENKO, M. A.

Plan of faulting elements in the Fiagdon ore deposit (central
Caucasus). Trudy Inst. geol nauk. AN URSR. Ser. zah. geol.
no.1:143-149 '62. (MIRA 16:1)

(Fiagdon region—Ore deposits)
(Fiagdon region—Faults(Geology))

SPYCHENKO, M. A.

Subject : USSR/Aeronautics - instrument landing AID P - 5492
Card 1/1 Pub. 135 - 9/26
Authors : Savchenko, M. A., Lt. Col., mil. pilot class I and
Golovin, I. M., Major, mil. pilot class I.
Title : On the alternate airdrome
Periodical : Vest. vozd. flota, 3, 46-49, Mr 1957
Abstract : This is the third in the series of three articles which
appear in this issue under the title "On the Landing
Course". The author discusses the problem how the air-
planes should be ordered and guided to the alternate
airdromes when the landing due to the bad weather con-
ditions is impossible on the home airdrome. The article
merits attention.
Institution : None
Submitted : No date

SAVCHENKO, M.A.
AUTHOR: Savchenko, M.A., Lt Col, Mil Pilot First Class 86-12-9/29
TITLE: Landing with the Engine Idling (Raschet na posadku s ustanovkoy dvigatelya na kholostoy khod)
PERIODICAL: Vestnik Vozdushnogo Flota, 1957, Nr 12, pp. 41-45 (USSR)
ABSTRACT: In this article the author discusses the factors which should be taken into account when the pilot is forced to land because of an engine failure. According to the author, young pilots without systematic training become confused and have difficulties when landing an aircraft with a dead engine. The author first describes how to plan the landing with the engine idling and then explains how to put the training into practice. It is stressed by the author that the training of pilots should be carried out so that the landing planning is exercised systematically from various altitudes and zones of flight without permitting any breaks of long duration in such a training. Four diagrams.
AVAILABLE: Library of Congress
Card 1/1

SAVCHENKO, M.A., podpolkovnik, voyenny letchik pervogo klassa.

Calculation for a landing with an engine at idling speed.

Vest. Vozd. Fl. 40 no.12:41-45 D '57. (MIRA 14:12)

(Airplanes, Military--Landing)

41425

S/142/62/005/004/003/010
E192/E382

9.2572

AUTHORS: Savchenko, M.A. and Shishkin, L.A.

TITLE: Influence of magnetization fluctuations on the thermal noise of a ferrite parametric amplifier of the electro-magnetic type

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika, v. 5, no. 4, 1962, 454 - 458

TEXT: The paper was read at the Third All-Union Conference MV and SSSO SSSR on Radio-electronics, in Khar'kov, 1960. The noise in an electromagnetic parametric ferrite amplifier is determined by the magnitude of the fluctuation energy of the field at the signal frequency, the fluctuations being due to magnetization fluctuations at the resonance frequency coinciding with the pump frequency. A simplified model of the amplifier is considered. A small ferrite sphere is situated in a constant magnetic field H_0 and in the alternating fields of the signal $H(\omega_1)$, of an auxiliary signal $H(\omega_2)$ and the pump generator $H(\omega_3)$. The resulting magnetic field and the

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Influence of magnetization

S/142/62/005/004/003/010
E192/E382

determine the noise-radiation of a ferrite amplifier based on a small spherical ferrite element situated in a resonator. For this case, the average energy of the fluctuation field is given by:

$$W_{ir} \approx \frac{4V_0 \gamma^2 \omega_1^2 h |\vec{H}_1|^2 \chi''(\omega_n) \coth \frac{\hbar \omega_n}{2T}}{\left[(\Omega_n^2 - \omega_1^2)^2 + \frac{\Omega_n^2 \omega_1^2}{Q_n^2} \right] \left(\int_{V_0} |\vec{H}_1|^2 dV \right)}, \quad (22)$$

$$\left\{ \frac{1}{\omega_1^2} (|H_{2x}|^2 + |H_{2y}|^2) + 2 \frac{\omega_n^2 + \omega_1^2}{(\omega_n^2 - \omega_1^2)^2} |H_{2z}|^2 \right\}.$$

where Q_n is the quality factor of the resonator, V_0 is the volume of the resonator, V_0 is the volume of the ferrite sample, Ω_n is the natural frequency of the resonator and χ'' is the imaginary component of the tensor of the magnetic susceptibility. It is found from Eq. (22) that for a typical electromagnetic ferrite amplifier $W_{ir} = 10^{-27}$ erg sec/cm³.
Card 3/4

Influence of magnetization

S/142/62/005/004/003/010
E192/E382

Therefore, in view of the fact that the thermal noise due to dielectric and metallic portions of the system is of the order of 10^{-14} erg, the magnetization-fluctuation noise can be neglected.

ASSOCIATION:

Kafedra teoreticheskikh osnov radiotekhniki
Khar'kovskogo aviatsionnogo instituta
(Department of Theoretical Principles of Radio-
engineering of Khar'kov Aviation Institute)

SUBMITTED:

July 10, 1961 (initially)
January 27, 1962 (after revision)

Card 4/4

42669

S/142/62/005/005/003/009
E140/E135

24760

AUTHORS: Savchenko, M.A., and Shishkin, L.A.

TITLE: Surface spin waves

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Radiotekhnika,
v.5, no.5, 1962, 557-560

TEXT: The paper considers electromagnetic-spin waves in ferromagnetics which pass into surface electromagnetic waves at low frequencies and surface spin waves at high frequencies. Spin waves due to exchange and magnetic-dipole interactions and electromagnetic waves arising from eddy-fields are limiting cases of the same phenomenon. The author considers these for the case of a ferrite with a cubic crystal lattice magnetised parallel to the surface (ferrite filling an infinite half-space). Real, imaginary and complex solutions for the propagation constant correspond to propagated and attenuated waves, and propagation of two forward and two backward waves with periodic redistribution of energy between individual wave types, respectively.

Card 1/2

Surface spin waves

S/142/62/005/005/003/009
E140/E135

ASSOCIATION: Kafedra teoreticheskikh osnov radiotekhniki
Khar'kovskogo aviatsionnogo instituta
(Department of Theoretical Fundamentals of
Radioengineering, Khar'kov Aviation Institute)

SUBMITTED: July 10, 1961

Card 2/2

ACCESSION NR: AR4028220

S/0274/64/000/002/A056/A057

SOURCE: RZh. Radiotekhnika i elektrosvyaz', Abs. 2A362

AUTHORS: Shishkin, L. A.; Savchenko, M. A.

TITLE: On thermal radiation of magnetized ferrites

CITED SOURCE: Uch. zap. Khar'kovsk. un-t, v. 132, 1962, Tr. radio-fiz. fak., v. 7, 53-59

TOPIC TAGS: ferrite, magnetized ferrite, thermal radiation, spontaneous magnetic moment, resonant radiation component, ferromagnetic resonance

TRANSLATION: The radiation of a magnetized ferrite, resulting from the interaction between the spontaneous magnetic moments and a constant magnetic field, is investigated. The ferrite fills an infinite half space and radiates into vacuum. The extraneous magnetic

Card 1/2

ACCESSION NR: AR4028229

S/0274/64/000/002/B097/B097

SOURCE: RZh. Radiotekhnika i elektrosvyaz', Abs. 2B616

AUTHOR: Savchenko, M. A.; Shishkin, L. A.

TITLE: Influence of magnetization fluctuations on the thermal noise of a parametric ferrite amplifier

CITED SOURCE: Uch. zap. Khar'kovsk. un-t, v. 132, 1962, Tr. Radiofiz. fak., v. 7, 60-63

TOPIC TAGS: parametric ferrite amplifier, parametric amplifier, thermal noise, thermal magnetization fluctuation, magnetic moment fluctuation, fluctuation field

TRANSLATION: The theory of thermal noise of a parametric ferrite amplifier, due to thermal fluctuations of the magnetic moment, is considered. The most important component in the spectrum of the mo-

Card 1/2

ACCESSION NR: AR4028229

ment fluctuations corresponds to the ferromagnetic resonance frequency. It is shown that a fluctuation field of the same frequency as the signal is produced in the amplifier. The radiation energy of this field is determined. Yu. B.

DATE ACQ: 30Mar64

SUB CODE: GE, PH

ENCL: 00

Card 2/2

S/181/63/005/004/031/047
B102/B186

AUTHORS: Bar'yakhtar, V. G., and Savchenko, M. A.

TITLE: Relaxation processes in antiferromagnetics with spiral structure

PERIODICAL: Fizika tverdogo tela, v. 5, no. 4, 1963, 1158 - 1166

TEXT: Relaxation processes are theoretically investigated for spin wave and spin wave - phonon systems of antiferromagnetics with helical magnetic structure at low temperatures. The calculations are based on a Hamiltonian taking account of spin-spin as well as spin-phonon interactions. Exchange interaction exerts the strongest effects; it is responsible for fusion and splitting of the spin waves, spin wave scattering and phonon emission and absorption spin wave fusion and splitting and also phonon emission and absorption are, however, of small probability at low temperatures since their probability is proportional to T^5 , i.e. for the relaxation times the relation $\tau \sim T^{-5}$ will hold for $T \gg \epsilon_0$ or $T \ll \epsilon_0 / \tau \sim \exp(-\epsilon_0/T)$; ϵ_0 is the spin wave activation energy, $\epsilon_0 \approx 10^\circ \text{K}$. Formulas are derived for τ of all the processes involved. An estimate yields the approximate relation

Card 1/2

Relaxation processes in...

S/181/63/005/004/031/047
B102/B186

$\tau_{s-s}/\tau_{s-ph} \simeq J^2/Mc_s^2 \theta_c$ where c_s is the sonic velocity; with $J \simeq 10^2$ °K,
 $\theta_c \simeq 10^2$ °K, $Mc_s^2 \simeq 10^3$ this yields $\tau_{s-s}/\tau_{s-ph} \simeq 10^{-1}$.

ASSOCIATION: Fiziko-tekhnicheskii institut AN USSR Khar'kov (Physicotechnical
Institute AS UkrSSR, Khar'kov)

SUBMITTED: October 24, 1962 (initially)
November 29, 1962 (after revision)

Card 2/2

SAVCHENKO, M.A.; BAR'YAKHTAR, V.G.

Theory of relaxation processes in antiferromagnetics with a helical structure. Fiz. tver. tela 5 no.10:2747-2755 0 '63.
(MIRA 16:11)

1. Fiziko-tehnicheskii institut AN UkrSSR, Khar'kov.

ACCESSION NR: AP4019851

S/0181/64/006/003/0864/0872

AUTHOR: Savchenko, M. A.

TITLE: Coupled magnetoelastic waves in antiferromagnetics

SOURCE: Fizika tverdogo tela, v. 6, no. 3, 1964, 864-872

TOPIC TAGS: magnetoelastic wave, antiferromagnetism, magnetic anisotropy, magnetostriction

ABSTRACT: The author has studied uniaxial antiferromagnetics for two cases: one in which the magnetic moments are oriented along the chosen axis, no external field being applied, and a second in which the magnetic moments lie in a plane perpendicular to the chosen axis. For ordered magnetic moments of the sublattices in different phases, the author has found that the coupling parameters of magnetic (spin) and elastic (sound) waves depend essentially on the orientation of the applied magnetic field, and that, with resonance, the values of the coupling parameters and of the frequency correction are determined by the transverse or longitudinal velocities of sound, by the constants of magnetic anisotropy, and by the magnetostriction of the antiferromagnetic. The examination made in this work

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ACCESSION NR: AP4019851

may be easily extended to the case when the wave vector is normal to the chosen axis. Similar results are obtained. "In conclusion, the author expresses his sincere thanks to A. I. Akhiezer and V. G. Bar'yakhtar for suggesting the topic and for valuable discussions and to S. V. Peletminskiy for useful remarks." Orig. art. has: 46 formulas.

ASSOCIATION: Fiziko-tehnicheskii institut AN UkrSSR, Khar'kov (Physicotechnical Institute AN UkrSSR)

SUBMITTED: 24Jul64

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: SS, EC

NO REF SOV: 007

OTHER: 005

Card 2/2

ACCESSION NR: APL034925

S/0181/64/006/005/1435/1438

AUTHORS: Bar'yakhtar, V. G.; Savchenko, M. A.; Shishkin, L. A.

TITLE: High frequency magnetic susceptibility of magnets with spiral ferromagnetic structure

SOURCE: Fizika tverdogo tela, v. 6, no. 5, 1964, 1435-1438

TOPIC TAGS: magnetic susceptibility, spiral ferromagnetic structure, ferromagnetic resonance, atomic spin, exchange interaction, susceptibility tensor, Bohr magneton, Heisenberg principle

ABSTRACT: The authors worked out the high-frequency susceptibility tensor for materials with spiral ferromagnetic structure. As shown by B. R. Cooper, R. I. Elliot, S. I. Nettel, and H. Suhl (Phys. Rev., 127, 57, 1962), such materials, unlike the usual ferromagnets, possess two resonant frequencies. One is comparatively small and lies in the frequency range of ferromagnetic resonance; the other, which is the result of exchange interactions of atomic spins, is essentially dependent on the pitch of the spiral and lies in the optical range. For simplicity the authors neglected the effects of attenuation and assumed that the spin waves

Card 1/2

ACCESSION NR: AP4034925

did not interact with each other. Orig. art. has: 14 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut, AN UkrSSR, Khark'ov (Physicotechnical Institute, AN UkrSSR)

SUBMITTED: 28Nov63

DATE ACQ: 20May64

ENCL: 00

SUB CODE: EM

NO REF SOV: 001

OTHER: 005

Card 2/2

ACCESSION NR: AP4022699

S/0185/64/009/003/0283/0292

AUTHOR: Savchenko, M. A.; Gann, V. V.; Ryabko, P. V.

TITLE: Bound magnetoelastic waves in antiferromagnetics

SOURCE: Ukrayins'ky'y fizy*chny*y zhurnal, v. 9, no. 3, 1964, 283-292

TOPIC TAGS: magnetoelastic wave, bound magnetoelastic wave, antiferromagnetic substance, magnetostriction, spin wave propagation, sound wave propagation, spin-wave-sound-wave interaction, ponderomotive interaction, magneto-acoustic wave

ABSTRACT: The authors determined the absorption coefficients of sound and the changes in its velocity due to magnetostriction and ponderomotor interaction in antiferromagnetics of two types: type A, when the magnetic moments are oriented, in the absence of an external magnetic field, along a selected axis, and type B, when the magnetic moments lie in a plane perpendicular to the selected axis.

With sufficiently strong external magnetic fields, when the magnetic moments of the sublattices are "overthrown", the resonance coefficients of absorption and the resonance increments to the velocity of sound depend substantially on the external magnetic field.

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ACCESSION NR: AP4022699

Anomalies in the velocities of sound and the absorption coefficients are particularly great in resonance when the wave vector and the sound wave frequency coincide with the wave vector and frequency of the magnetic (spin) wave.

"The authors express deep gratitude to O. I. Akhiezer and V. G. Bar'yakhtar for guidance in the performance of this work and for valuable discussion." Orig. art. has: 40 numbered equations.

ASSOCIATION: Fizyko-tekhnichnyy instytut AN Ukr. SSR, Kiev (Physics-Technical Institute AN UkrSSR)

SUBMITTED: 02Sep63

DATE ACQ: 08Apr64

ENCL: 00

SUB CODE: PH, GE

NO REF SOV: 006

OTHER: 006

Card 2/2

L 34547-65 EWT(1)/EPA(s)-2 Pt-10 LJP(c) GG

ACCESSION NR: AP5000359

S/0056/64/047/005/1989/1994

AUTHOR: Bar'yakhtar, V. G.; Savchenko, M. A.; Gann, V. V.;
Ryabko, P. V.

TITLE: Coupled magnetoelastic waves in antiferromagnets with
magnetic structure of the MnCO_3 type

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki,
v. 47, no. 5, 1964, 1989-1994

TOPIC TAGS: Antiferromagnetism, magnetostriction, polarization,
acoustic wave interaction, spin wave coupling, ferroacoustic
resonance

ABSTRACT: The substances investigated have weak ferro-
magnetism and a rhombohedral lattice with two magnetic ions
per unit cell. The Hamiltonian is written down in the form
of a sum of the magnetic, elastic, magnetostriction, and in-

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L 34547-65

ACCESSION NR: AP5000359

2

teraction energies, and it is shown that a transverse wave with polarization vector along the y axis does not interact with the two other acoustic waves, and that only this transverse wave interacts with the low frequency spin waves. The coupling between the sound and spin waves is particularly large at resonance when the spin wave frequency coincides with the frequency of the sound wave. The experimental feasibility of determining exchange integrals from ferroacoustic resonance in such substances is demonstrated. "In conclusion the authors thank O. V. Kovalev for valuable discussions." Orig. art. has: 2 figures and 31 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk UkrSSR
(Physicotechnical Institute, Academy of Sciences UkrSSR)

SUBMITTED: 03 Jun 64

ENCL: 00

SUB CODE: EM, NP

NR REF SOV: 007

OTHER: 001

Card 2/2

L 00677-66 EFP(c)/EWP(z)/EWT(l)/EWT(m)/EWP(b)/ENA(d)/EWP(t) IJP(c) GG/WW/JD

ACCESSION NR: AP5012569

UR/0181/65/007/005/1523/1528

AUTHOR: Savchenko, M. A.; Gann, V. V.

TITLE: Coupled magnetoelastic waves in helicoidal magnetic structures

SOURCE: Fizika tverdogo tela, v. 7, no. 5, 1965, 1523-1528

TOPIC TAGS: ferromagnetic resonance, spin resonance, acoustic resonance, magnetic structure

ABSTRACT: The authors consider coupled magnetoelastic waves in magnetic substances with helical distribution of the spins of the atoms in a constant external magnetic field, and discuss the possibility of experimentally determining the exchange integrals from ferroacoustic resonance. It is shown that the ferroacoustic and ferromagnetic resonance lines form doublets in helicoidal structures placed in a magnetic field parallel to the preferred axis. The distance between the doublet components increases in proportion to the magnetic field intensity. The ferromagnetic resonance frequencies for a magnetic field directed perpendicular to the preferred axis are investigated. It is pointed out in the conclusion that experiments of ferroacoustic resonance in helicoidal structures are best carried out in substances with small anisotropy, for example in chromium at temperatures above 120K, when ferroacoustic resonance frequencies should be of the order of 10^9 cps, although frequen-

Card 1/2

L 00677-66

ACCESSION NR: AP5012569

cies on the order of 10^{11} cps are necessary for reliable determination of the component of the exchange integrals. "The authors thank V. G. Bar'yakhtar^{44, 55} for interest in the work and for valuable remarks." Orig. art. has: 21 formulas and 2 figures.

ASSOCIATION: Fizicheskoye tekhnicheskoye institut AN UkrSSR, Khar'kov (Physicotechnical Institute, AN UkrSSR).

SUBMITTED: 26 Oct 64

ENCL: 00

SUB CODE: FM

NR REF SOV: 003

OTHER: 002

Card 2/2

L 47053-65 EWT(m) IJP(c)

ACCESSION-NR: AP5007686

8/0185/65/010/003/0263/0274

AUTHOR: Savchenko, M. A.; Hann, V. V. (Gann, V. V.); Ryabko, P. V.

TITLE: Ferroacoustic resonance in magnets

SOURCE: Ukrayins'kyi fizychnyy zhurnal, v. 10, no. 3, 1965, 263-274

TOPIC TAGS: ferroacoustic resonance, ferromagnetism, antiferromagnetism, spin wave excitation, acoustic wave excitation, magnetic moment

ABSTRACT: The article considers the excitation of magnetic (spin) waves by an external sound field on the boundary. The initial boundary conditions, which must be satisfied by the exchange forces, the surface-anisotropy field, and the surface magnetostriction are determined. It is shown that a gradual collapse of the magnetic moments of the sublattices is excited near the boundary of antiferromagnets whose magnetic moments are at an angle with a strong external magnetic field. In this case the depth of the distortion of the magnetic structure equals several atomic-lattice constants. The resonant spin wave amplitudes are obtained in the approximation of weak surface anisotropy. The absorption coefficients of the

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ACCESSION NR: AP5007686

coupled oscillations occurring at resonance are calculated. Separate calculations are made of resonance of antiferromagnets with mirror sublattice symmetry and for antiferromagnets in a transverse magnetic field. "The authors thank V. G. Bar'yakhtar and S. V. Peletmin's'ky (Peletminskiy) for valuable discussions." Orig. art. has: 50 formulas.

ASSOCIATION: Fizyko-tekhnichnyy instytut AN URSR, Kharkiv [Fiziko-tekhnicheskii institut AN UkrSSR] (Physicotechnical Institute, AN UkrSSR)

SUBMITTED: 26 May 64

ENCL: 00

SUB CODE: EM

NR REF SOV: 004

OTHER: 003

am
Card 2/2

L 45648-65 EFF(c)/EWT(1)/EEC(t) PI-4 IJP(c) CG/WW

ACCESSION NR: AP5008745

S/0056/65/048/003/0864/0868

AUTHOR: Gordon, N. I.; Kadigrobov, A. M.; Savchenko, M. A.

32

29

8

TITLE: Non-uniform resonance in an antiferromagnetic plate

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 3, 1965, 864-868

TOPIC TAGS: resonance, antiferromagnetism, ferromagnetism, anisotropic constant, dipole dipole interaction, magnetostatic oscillation, magnetic moment

ABSTRACT: The frequencies of non-uniform resonance in a plate are calculated for antiferromagnets of various types (uniaxial, composed of two narrow sublattices, and an antiferromagnet with weak ferromagnetism). It is shown that dipole-dipole interactions are important in the extreme long-wave part of the spectrum (magnetostatic modes of oscillation), for those values of the field at which reversal of the magnetic moments of the sublattices of the antiferromagnet occurs. In the case of the antiferromagnet with weak ferromagnetism, the formulas derived go over in a limiting case to the case of a uniaxial antiferromagnet with negative anisotropic

Cord 1/2

L 45648-65

ACCESSION NR: AF5008745

constant. "The authors thank V. G. Bar'yakhter and M. I. Kaganov for suggesting the problem and for valuable discussions." Orig. art. has: 6 figures and 8 formulas.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainsskoy SSR (Physico-technical Institute, Academy of Sciences, Ukrainian SSR)

SUBMITTED: 25Jul64

ENCL: 00

SUB CODE: EM

NR REF SOV: 003

OTHER: 001

Card 2/2 7mb

L 12180-66 EWT(1)/EWT(m)/EWP(e)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/GG

ACC NR: AP5024717

SOURCE CODE: UR/0056/65/049/003/0944/0952

AUTHORS: ^{44,55} Bar'yakhtar, V. G.; ^{44,55} Savchenko, M. A.; ^{44,55} Tarasenko, V. V.

ORG: None

TITLE: Coupled magnetoelastic waves in antiferromagnets in strong magnetic fields ⁵¹_B

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 3, 1965, 944-952

TOPIC TAGS: antiferromagnetic material, uniaxial crystal, magnetic structure, magnetoacoustic effect

ABSTRACT: ^{21,44,55} The authors consider coupled magnetoelastic waves in a uniaxial antiferromagnet, the ground state of which is determined (in the absence of an external magnetic field) by two compensated sublattices. The angle between the magnetic moment of the sublattices is assumed to differ appreciably from 180°. The antiferromagnet is assumed to have magnetic anisotropy of the easy-axis type. The spectrum of the coupled magnetoelastic wave is determined by the standard procedure of diagonalizing the Hamiltonian. The results show that the strongest coupling is produced between nonactivated spin and longitudinal sound waves, with the latter being excited in the antiferromagnet only if the

Card 1/2

I 12180-66

ACC NR: AP5024717

alternating magnetic field is polarized along the direction of the resultant magnetization. The relative corrections to the frequencies (phase velocities) of the sound and magnetic waves during magnetoacoustic resonance are determined, and the amplitude of the longitudinal sound oscillations induced by an alternating magnetic field is calculated. It is shown that excitation of longitudinal sound waves occurs only if the alternating magnetic field is parallel to the constant magnetization axis. The corrections to the velocities of the sound (elastic) and spin (magnetic) waves are found to amount to several per cent even outside the region of magnetoacoustic resonance. Orig. art. has: 32 formulas

SUB CODE: 20/ SUBM DATE: 19Apr65/ NR REF SOV: 006/ OTH REF: 002

Card

Fw
2/2

L 15364-66 EWT(1)/EWT(m)/EWA(d)/EWP(t)/EWP(z)/EWP(b) IJP(c) JD/WW/GG
ACC NR: AP6000224 SOURCE CODE: UR/0056/65/049/005/1631/1636

AUTHORS: Bar'yakhtar, V. G.; Savchenko, M. A.; Tarasenko, V. V. ⁵⁶₅₅

ORG: Physicotechnical Institute, Academy of Sciences UkrSSR (Fiziko-
tekhnicheskii institut Akademii nauk UkrSSR)

TITLE: ^{21, 44, 55} Inhomogeneous resonance in antiferromagnets, ^{21, 44, 55} 4

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49,
no. 5, 1965, 1631-1636

TOPIC TAGS: antiferromagnetic material, magnetic moment, magnetic
anisotropy, magnetic resonance, external magnetic field

ABSTRACT: The article deals with the characteristic frequencies of
an antiferromagnetic plate for the case when the field and the de-
viations of the magnetic moments from their equilibrium values are
inhomogeneous, and the magnetic moments of the sublattices lie in the
plane of the plate. The calculations are made in the magnetostatic
approximation for antiferromagnets with two types of anisotropy, an
axis and a plane of easy magnetization. It is shown that the charac-

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2

L 15364-66

ACC NR: AP6000224

teristic frequencies lie within a strictly defined interval the width of which is of the order of $1/6$ (6 is the constant of homogeneous exchange interaction between the sublattices). The dependence of the limiting frequencies of the inhomogeneous resonance on the external magnetic field is determined over a wide range of magnetic fields so that the frequency interval within which the frequencies of inhomogeneous resonance lie is evaluated as a function of the variation of the external magnetic field. Authors thank A. S. Borovik-Romanov who called their attention to this problem. Orig. art. has: 4 figures and 20 formulas.

SUB CODE: 20/ SUBM DATE: 19Jun65/ ORIG REF: 004/ OTH REF: 002

Card

2/2 *AC*

L 45098-66 EWT(1)/T IJP(c) GG/AT

ACC NR: AP6024886

SOURCE CODE: UR/0056/66/051/001/0250/0257

AUTHOR: Bar'yakhtar, V. G.; Rudashevskiy, Ye. G.; Savchenko, M. A.; Stepanov, K. N.

ORG: Physico-technical Institute, Academy of Sciences, Ukrainian SSR (Fiziko-tekhni-cheskiy institut Akademii nauk Ukrainskoy SSR)

TITLE: Interaction between electromagnetic, plasma and spin waves in antiferromagnetic semiconductors and metals

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 1, 1966, 250-257

TOPIC TAGS: plasma wave, spin wave, antiferromagnetic, ^{MATERIAL;} magnetic susceptibility, ELECTROMAGNETIC WAVE

ABSTRACT: Coupled electromagnetic, plasma, and spin waves in antiferromagnetic semiconductors and metals are investigated. Since there are two spin waves in antiferromagnetics (unlike ferromagnetics, which have one), the spin and electromagnetic (plasma) wave interaction pattern in the former is more complex than in the latter. However, in antiferromagnetics the magnetic susceptibility is proportional to a small parameter χ_0 (static susceptibility), and the spin and electromagnetic oscillation coupling is therefore weak. In the region in which the frequencies of the noninteracting spin and electromagnetic (plasma) branches intersect, the frequency corrections due to wave coupling is of the order of $\sqrt{\chi_0}$, and far away from the intersection region they are of the order of χ_0 . Orig. art. has: 32 formulas. ^{CS}

Card 1/1 SUB CODE: 20/ SUBM DATE: 24Jan66/ ORIG REF: 005/ OTH REF: 004/

L 41746-66 EWT(1) IJP(c) GG/AT

ACC NR: AP6018037

SOURCE CODE: UR/0185/66/011/006/0644/0652

AUTHOR: Savchenko, M. A.; Syshkin, L. A.--Shishkin, L. A.

ORG: Physicotechnical Institute, AN UkrSSR (Fizyko-tekhnichnyy instytut AN URSR);
Physicotechnical Institute of Low Temperatures, AN UkrSSR (Fizyko-tekhnichnyy instytut niz'kykh temperature AN URSR)

TITLE: Coherent amplification of magnetostatic oscillations by an electron beam in antiferromagnets

SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 11, no. 6, 1966, 644-652

TOPIC TAGS: antiferromagnetism, magnetic susceptibility, magnetization, oscillation, electron beam

ABSTRACT: The authors calculate the growth increments of the magnetostatic oscillations induced in an antiferromagnet by an electron beam, the antiferromagnet being assumed for simplicity to be in the form of a plate. Maxwell's equations are used and the components of the susceptibility tensor are written out for various types of antiferromagnets: (i) with anisotropy of the easy plane type, (ii) with weak ferromagnetism, (iii) with magnetic anisotropy of the easy axis type, in a field weaker than the reversal field, (iv) with magnetic anisotropy of the easy axis type, in a field stronger than the reversal field. The dependence of the growth increments on the susceptibility of the medium and on other parameters is determined. It is shown that the amplification of the magnetostatic oscillations takes place in the antiferro-

Card 1/2

L 41746-66

ACC NR: AF6018037

magnets in certain strictly defined frequency intervals, which are evaluated for the different types of antiferromagnets under consideration. The authors thank V. G. Bar'yakhtar for a discussion of the results. Orig. art. has: 4 figures and 26 formulas.

SUB CODE: 20/ SUBM DATE: 21Jul65/ ORIG REF: 008/ OTH REF: 002

Card

2/2

L 04043-67 EWT(1)/EWT(m)/T/ENP(t)/ETI IJP(c) AT/JD

ACC NR: AT6031153 SOURCE CODE: UR/3137/65/000/244/0003/0018

AUTHOR: Bar'yakhtar, V. G.; Savchenko, M. A.; Stepanov, K. N. 62

ORG: none B+1

TITLE: Interaction of plasma and spin waves in ferromagnetic semi-conductors and metals

SOURCE: AN UkrSSR. Fiziko-tekhnicheskii institut. Doklady, no. 244/T-027, 1965. O vzaimodeystvii plazmennykh i spinovykh voln v ferromagnitnykh poluprovodnikakh i metallakh, 3-18

TOPIC TAGS: semiconductor, spin wave, ferromagnetic semiconductor, plasma wave, semiconductor plasma

ABSTRACT: A study is conducted of coupled spin, plasma, and electromagnetic waves in ferromagnetic semiconductors and metals at arbitrary wave propagation directions. The refractive indices and transmission regions of these ferromagnetic semiconductors and metals are determined. Orig. art. has: 41 formulas. [Authors' abstract] [SP]

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 006/ OTH REF: 002

metal physics 18

1/1

L 05613-67 EWT(1) GG

ACC NR: AP6024484

SOURCE CODE: UR/0181/66/008/007/2168/2172

AUTHOR: Bar'yakhtar, V. G.; Savchenko, M. A.; Stepanov, K. N.

ORG: none

TITLE: Interaction of electromagnetic and spin waves in helicoidal magnetic structures

SOURCE: Fizika tverdogo tela, v. 8, no. 7, 1966, 2168-2172

TOPIC TAGS: spin wave, electromagnetic wave, magnetic structure, antiferromagnetism, refractive index

ABSTRACT: The authors consider coupled spin and electromagnetic waves and their propagation in antiferromagnets with helicoidal magnetic structure and derive analytic expressions for the frequencies of the interacting waves. The different modes of oscillations that can exist in the antiferromagnet are illustrated as functions of the frequency dependence of the refractive index. It is shown that near the points of intersection of the spin and electromagnetic branches, the coupling parameter has an order of magnitude $\sqrt{\zeta}$, while far from this point it is proportional to ζ ($\zeta = g\mu^2 S / Ia^3 \sim 10^{-3}$, where g is the Lande factor, μ is the Bohr magneton, S the spin of the atom, I the exchange integral, and a the lattice constant). Orig. art. has: 2 figures and 15 formulas

SUB CODE: 20/ SUBM DATE: 29Dec65/ ORIG REF: 005/ OTH REF: 002

Card 1/1 *eqk*

L 22253-66 EPF(n)-2/EWT(1)/EWT(m)/ETC(f)/EWG(m)/EWA(d)/EWP(t) IJP(s) NT/JD

ACC NR: AP6010978

SOURCE CODE: UR/0056/66/050/003/0576/0588

AUTHOR: Bar'yakhtar, V. G.; Savchenko, M. A.; Stepanov, K. N.

80

ORG: Physicotechnical Institute, Academy of Sciences, Ukrainian SSR (Fiziko-tehnicheskii institut Akademii nauk Ukrainsskoy SSR)

B

TITLE: ^{2/}Interaction of plasma and spin waves in ferromagnetic semi-conductors and metals

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 50, no. 3, 1966, 576-588

TOPIC TAGS: spin wave, ferromagnetism, magnetic permeability, Larmor radius, magnon, *plasma physics, ferromagnetic material, semiconducting material, metal, magnetic anisotropy*

ABSTRACT: Bound plasma, and electromagnetic and spin waves in ferromagnetic semiconductors and metals with magnetic anisotropy of the "easy axis" and "easy plane" type are considered. The region of wave vectors k is investigated in which space dispersion of the magnetic permeability tensor may be significant, but space dispersion of the dielectric permittivity is weak (the wavelength is much greater than the Larmor electron radius and the phase velocity of the waves is much greater than the thermal or Fermi velocity of the electrons). The

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indices of refraction waves and the transparency regions are determined. It is shown that bound waves in the plasma in the absence of space dispersion of the ϵ tensor possess normal dispersion). The spectra of bound cyclotron and spin waves moving perpendicular to the magnetic field are also determined in the case when the wavelength is of the order of the Larmor electron radius. [CS]

SUB CODE: 20/ SUBM DATE: 07Oct65/ ORIG REF: 006/ OTH REF: 002/

Card 2/2 nst

L 05812-67 EWT(1) IJP(c) GG

ACC NR: AP6031440 SOURCE CODE: UR/0056/66/051/002/0482/0489

AUTHOR: Savchenko, M. A.; Tarasenko, V. V.

ORG: Physicotechnical Institute, Academy of Sciences Ukrainian SSR (Fiziko-tehnicheskiiy institut Akademii nauk Ukrainskoy SSR)

TITLE: Theory of nonlinear phenomena in ferromagnetics

SOURCE: Zh eksper i teor fiz, v. 51, no. 2, 1966, 482-489

TOPIC TAGS: ferromagnetic material, spin wave, magnetic field, emission threshold, saturation magnetization, magnetic anisotropy

ABSTRACT: Nonlinear phenomena in ferromagnetic materials have been investigated and conditions of nonparametric excitation of the quasi-particles are formulated by the nonstationary density matrix $\rho(t)$. The stationary state of excited waves are determined. The relations derived are used for investigating the parametric phenomena in ferromagnetics. It is shown that for the parametric excitation of spin waves by spin waves, it is necessary for the magnetic field intensity H_0 to satisfy the conditions $0 \leq H_0 \leq (4\pi/3 - \beta)M_0$, where M_0 is the saturation magnetization and the value of the anisotropy constant is $\beta < 4\pi/3$. The

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ACC NR: AP6031440

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excitation threshold is minimum when the wave vector f of the pumped waves is perpendicular to the axis of easiest magnetization. Similar calculations are carried out for a system of spin waves and photons. The author thank V. G. Bar'yakhtar and S. V. Peletminskiy for valuable discussions and attention to the work. Orig. art. has: 36 formulas. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 02Feb66/ ORIG REF: 003/ OTH REF: 009/

Card 2/2

L 09047-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6032481 SOURCE CODE: UR/0056/66/051/003/0036/0948

AUTHOR: Bar'yakhtar, V. G.; Savchenko, M. A.; Tarasenko, V. V. 56

ORG: Physicotechnical Institute, Academy of Sciences Ukrainian SSR (Fiziko-
tekhnicheskii institut Akademii nauk Ukrainiskoy SSR)

TITLE: Relaxation and thermal conduction in magnetic substances with dislocations

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 51, no. 3, 1966,
936-948

TOPIC TAGS: thermal conduction, spin wave, phonon scattering, activation energy,
heat equation, wave equation, magnetic substance, ferromagnetic substance,
antiferromagnetic substance

ABSTRACT: A spin wave and phonon scattering have been investigated for disloca-
tions in ferromagnetic and antiferromagnetic substances. It is shown that the mean
lifetime of a spin wave in a ferromagnet is proportional to $[t^{-1/2}T^{-1/2}]$, and in an
antiferromagnet it is proportional to the $t^{-1/2}T^{-1/2}$ (for $T \gg T_0$), where T is
the temperature, t is the dislocation concentration, and T_0 is the activation

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L 09047-67

ACC NR: AP6032481

energy of spin waves. The contribution of spin-wave and phonon scattering is estimated for dislocations in the thermal conduction. The equations are given for the spin thermal-conduction coefficient, κ_s , for ferromagnets and antiferromagnets, and for the phonon thermal-conduction coefficient. The authors thank E. M. Pikalov for his assistance in the work. Orig. art. has: 82 formulas. [Based on authors' abstract]

SUB CODE: 20/ SUBM DATE: 21Apr66/ ORIG REF: 008/ OTH REF: 002/

Card 2/2 not

ACC NR: AF7005845

SOURCE CODE: UR/0181/66/008/012/3574/3577

AUTHOR: Savchenko, M. A.; Stepanov, K. N.

ORG: Physicotechnical Institute AN UkrSSR, Khar'kov (Fiziko-tekhnicheskiy institut AN UkrSSR)

TITLE: Contribution to the theory of coupled electromagnetic and spin waves in helicoidal magnetic structures

SOURCE: Fizika tverdogo tela, v. 8, no. 12, 1966, 3574-3577

TOPIC TAGS: spin wave theory, electromagnetic interaction, ferromagnetic resonance, dispersion equation, plasma wave, refractive index

ABSTRACT: This is a continuation of earlier work (FTT v. 8, 2168, 1966) where coupled electromagnetic and spin waves in helical and magnetic structures were investigated in the absence of an external magnetic field at frequencies much higher than the ferromagnetic resonance frequency. In the present article these waves are studied at low frequencies, in the region of the ferromagnetic-resonance frequency. It is shown by analysis of the dispersion equation for this case that the plasma waves and one of the electromagnetic waves do not interact with the spin wave. For the electromagnetic wave interacting with the spin wave, and for the spin wave itself, the correction to the frequency far from the point of intersection is of the order $\xi = g u^2 / 8 a^3 \sqrt{K K'}$ (g - Lande factor, u - Bohr magneton, S - spin of atom, a - lattice constant, K and K' - anisotropy constants of the crystal; for most known substances

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ACC NR: AP7005845

$\xi \sim 10^{-2}$). Near the point of intersection, the correction is of the order of $\sqrt{\xi}$. Expressions are also obtained for frequencies of the interacting waves in the strong-coupling region, when $\xi \geq 1$. Plots of the frequency dependences of the refractive index and of the wave vector are presented. Orig. art. has: 4 figures and 14 formulas.

SUB CODE: 20/ SUBM DATE: 22May66/ ORIG REF: 002

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ACC NR: AP005347

waves having an energy half that of the pumping spin waves. The stationary state of the excited waves is found and an expression is obtained for the imaginary part of the susceptibility. Combination effects connected with the redistribution of the occupation numbers of the spin waves among the energy levels are also considered. It is found that in the case of electromagnetic pumping the interaction is realized between energy levels of the radio-frequency band and the optical band (10^{10} and 10^{13} sec^{-1} , respectively). The results point to the possibility of experimentally observing the discussed phenomena. The authors thank V. G. Bar'yakhtar for valuable discussions and interest in the work. Orig. art. has: 37 formulas.

SUB CODE: 20/ SUBM DATE: 20Jun66/ ORIG REF: 005/ OTH REF: 010

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AP7005125

it is of the order of $1/\delta$, where $\delta \sim 10^3$ is the exchange constant. The spin wave of a frequency of the order of electron gyrofrequency, on the other hand, strongly interacts with plasma and electromagnetic waves (the coupling parameter is greater than or of the order of unity) so that separation of the waves into spin and electromagnetic (or plasma) waves is possible only in limiting cases." In conclusion, the authors are deeply indebted to V. G. Bar'yakhtar for discussion of this project and valuable suggestions." Orig. art. has: 39 formulas.

SUB CODE: 20, ~~13~~ / SUBM DATE: 25Jan66 / ORIG REF: 006 / OTH REF: 002

Card 2/2

FD-1532

USSR/Medicine - Rural Practice

Card 1/1 : Pub 102-3/14

Author : *Savchenko, M. G.

Title : Specialization of rural physicians on local bases

Periodical : Sov. zdrav., ¹³/₆, 16-22, Nov-Dec 1954

Abstract : Order No 360 of the Minister of Health, USSR, issued on September 16, 1947, stressed the need for extending specialized medical care also to rural population. A system of specialized training has been developed for physicians on duty in rural medical districts and in rural rayon hospitals. This specialized training consists of temporary detached duty in republic, oblast (kray), or city hospitals, out-patient clinics, or scientific research institutes. The principal fields of specialization are: surgery, therapeutics, pediatrics, obstetrics and gynecology. Training of physicians in some one field of specialization has been gaining momentum in the USSR.

Institution : (*Senior Inspector) Main Administration of Educational Institutions, Ministry of Health, USSR

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Graduate studies by correspondence of the leaders of public health workers. Cesk. zdravot. 5 no.1:42-45 Jan 57.

(PUBLIC HEALTH, educ.
graduate studies by correspondence (Cz))