ОП-I (OP-I) debugging program

operations; when the order is a logical operation, 8 controls block 4; when it is a checking operation, then 8 controls block 9. The latter constitutes a massive memory ranging from cell α to $\beta + 1$. Block 10 is a checking block. Block 11 separates the unconditional transfer of control from the conditional transfer of control, and block 12 carries out arithmetic operations between two transfers of control if the last transfer of control has been an unconditional transfer. Block 13 carries out the same as 12, provided that the last transfer of control has been a conditional transfer. Blocks 12 and 13 control block 1 and print the orders for the control transfer. There are 1 figure and 1 table.

ASSOCIATION: Institut elektroniki i vychislitel'noy tekhniki AN Latv.SSR (Institute of Electronics and Computer Engineering, AS Latviyskaya SSR)

SUBMITTED: December 9, 1960

DAMBITE, G. R.

21099 Kalodis, K. i Dambite, G. O primenenii Aurеtsilina pri nekotorykh boleznyakh glaz. Izvestiya Akad Nauk Latv SSR, 1949, No 6, s. 37-40--Na. latysh. yaz--Rezyume Na. Rus. yaz.

SO: LETOPIS ZHURNAL STATEY - Vol. 28, Moskva, 1949

DAMBITE, G. R.

DAMBITE, G. R. — "Clinical and Experimental Observations of the Treatment of Ulcus Corneae Serpens with Sulfanilamide Preparations and Penicillin." Latvian State U, 1951 In Latvian (Dissertation for the Degree of Candidate of Medical Sciences)

SO: Izvestiya Ak. Nauk Latviyskoy SSR, No. 9, Sept., 1955

DAMBITE, G.R., kand. med. nauk

Use of sodium thiosulfate in cases of copper foreign bodies in the eye. Oft. zhur. 14 no.2:67-73 '59 (MIRA 12:7)

1. Iz kliniki glaznykh bolezney (dir. - prof. K.Ya. Balodis) Rizhskogo meditsinskogo instituta.
(EYE--FOREIGN BODIES) (SODIUM THIOSULFATE)

DAMBITE, G.R., kand.med.nauk

Use of sodium thiosulfate in the case of copper intraocular foreign bodies. Report No.2. Clinical observations. Oft.zhur. 15 no.1:3-7 '60. (MIRA 13:5)

1. Iz kliniki glaznykh bolezney (zav. -- prof. Ye.Ya. Balodis) Rizhskogo meditsinskogo instituta.
(EYE--FOREIGN BODIES) (SODIUM THIOSULFATE--THERAPEUTIC USE)

DAMBITE, G. R., kand. med. nauk

Use of unithiol in [cases of] copper intraocular foreign bodies.
Oft. zhur. 17 no.4:214-220 '62. (MIRA 15:7)

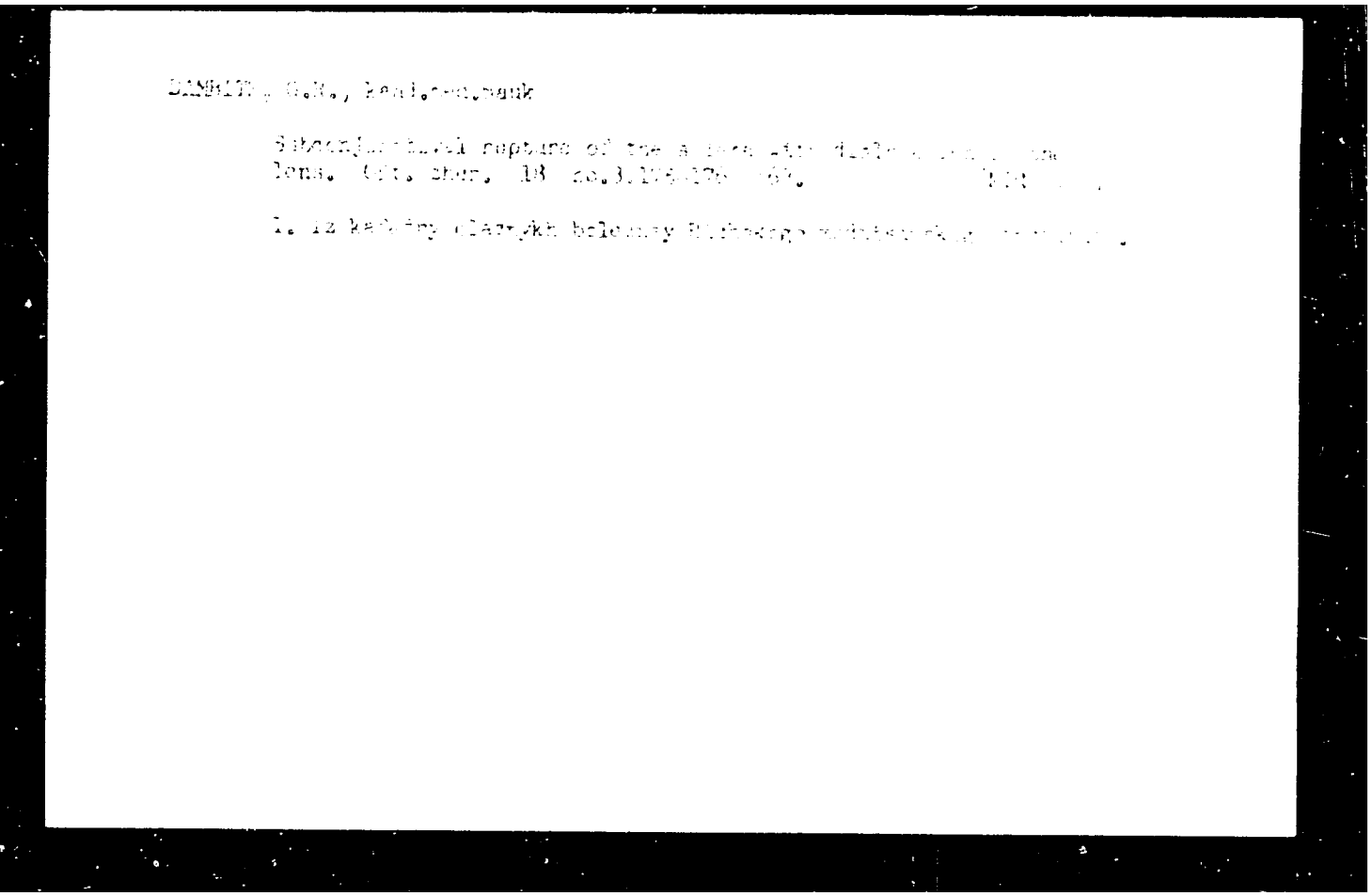
1. Iz kafedry glaznykh bolezney (zav. - prof. K. Ya. Balodis)
Rizhskogo meditsinskogo instituta.

(EYE--FOREIGN BODIES) (PROPANESULFONIC ACID)
(COPPER--PHYSIOLOGICAL EFFECT)

DAMBITE, G.R., kand.med.nauk

Glass needle for sucking off the fluid of the anterior chamber. Oft.zhur. 17 no.7:440-441 '62. (MIRA 16:3)

1. Iz kafedry glaznykh bolezney (zav. - prof. K.Ya. Balodis) Rizhskogo meditsinskogo instituta.
(AQUEOUS HUMOR) (EYE, INSTRUMENTS AND APPARATUS FOR)



DAMBITE, G.K., kand. med. nauk

Use of vitamin A in siderosis of the eye. Oft. zhur. 18 no.7: 408-413 '63 (MIRA 17:4)

1. Iz kafedry glaznykh bolezney Rizhskogo meditsinskogo instituta.

DAMBITIS, Ya. Ya., SHNEPS, M. A., and ARIN', E. I.

"On Self-Organizing Systems"

presented at the All-Union Conference on Computational Mathematics and Computational Techniques, Moscow, 16-28 November 1961

So: Problemy kibernetiki, Issue 5, 1961, pp 289-294

DAMBORITS, M.

Contemporary technology of lead production.

p. 26 (TEZHKA PROMISHLENOST) Vol. 6, no. 6, June 1957,
Sofiia, Bulgaria

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,
March 1958

DAMBORSKA, Marie, MUDr.; SAMANEK, Milan

Considerations on guidance of infants in institutions. Cesk. pediat. 11 no.7:537-542 July 56.

1. Ze statniho kojeneckeho ustavu v Luhacovicich (red. MUDr. M. Damborska).
(INFANT CARE,
guidance of institutionalized inf. (Cz))

DAMBORSKA, M. MUDr.

Differences in children reared at home & in institutions during the first year of life. Cesk. pediat. 12 no.11:980-990 5 Nov 57.

1. Statni kojenecky ustav v Luhacovicich reditelka MUDr M. Damborska M. D. Luhacovice - U prehrady 210.
(INFANT CARE
at home & in institutions, comparative growth, morbidity & psychd. develop. (Cz))

DAMBORSKY, Vaclav; DAMBORSKA, Marie; SAMANEK, Milan

Epidemic nausea and vomiting. Cas. lek. cesk. 46 no.10: 307-310 8 Mar 57.

1. OUNZ Uh. Brod a SKU Luhacovice. V. D., Luhacovice, U Prehrady 210.

(VOMITING, epidemiol.
with nausea (Cz))
(NAUSEA, epidemiol.
with vomiting (Cz))

DAMBORSKA, M.

Experience with training at a children's institution. Cesk.pediat. 14 no.9:819-823 Sept '59.

1. Kojenecky ustav Luhacovice, reditelka MUDr. M. Damborska.
(CHILD CARE)

DAMBORSKA, M.; NEUBAUEROVA, H.

Perez reflex. Cesk.pediat. 15 no.4:333-338 Ap '60.

1. Statni kojenecky ustav Luhacovice, reditelka MUDr. M. Damborska.
(REFLEX)

DAMBORSKA, M.; NEUBAUEROVA, H.; detska sestra P. Stepanova

Development of vision in the 2d quarter year of life. Cesk. pediat. 16 no.6:496-501 Je '61.

1. Kojenecky ustav Luhacovice, reditelka MUDr. M. Damborska.

(VISION in infancy & childhood)
(EYE in infancy & childhood)

DAMBORSKA, M.

Emotional life of newborn infants. Cesk. pediat. 16 no.10:935-938 O '61.

1. Kojenecky ustav OUNZ Gottwaldov v Luhacovicich.

(INFANT NEWBORN psychol) (CHILD PSYCHOLOGY)

DAMBORSKA, M.

The level of collective care of young children in the USSR. Cesk. pediat. 17 no.1:84-90 Ja '62.

1. Kojenecky ustav Luhacovice.

(CHILD CARE)

DAMBORSKA, M.

Musical training in children's collectives. Cesk. pediat. 17 no.11: 1021-1024 N '62.

1. Kojenecky ustav OUNZ Gottwaldov v Luhacovicich, reditelka dr. M. Damborska.

(CHILD WELFARE) (MUSIC)

CZECHOSLOVAKIA

DAMBORSKA, M., MD.

1. OUNZ (OUNZ), Gottwaldov; 2. Nursury Institute (Kojenecky ustav), Luhacovice

Prague, Prakticky lekar, No 11, 1963, pp 405-409

"Chief Problems of Daily Feeding of Children in Nurseries."

DAMBORSKY, Vaclav; DAMBORSKA, Marie; SAMANEK, Milan

Epidemic nausea and vomiting. Cas. lek. cesk. 46 no.10: 307-310 8 Mar 57.

1. OUNZ Uh. Brod a SKU Luhacovice. V. D., Luhacovice, U Prehrady 210.

(VOMITING, epidemiol.
with nausea (Cz))
(NAUSEA, epidemiol.
with vomiting (Cz))

DAMBRAN, L. A.

DAMBRAN, L. A.: "Communist training of students in the fifth through seventh classes by controlling the homework reading (based on material from the schools in Soviet Latvia)." Tartu State U. Chair of Pedagogy. Riga, 1956. (Dissertation for the Degree of Candidate in Pedagogical Science.)

Knizhnaya Letopis'
No 32, 1956. Moscow.

DAMBRAUSKAS, L.P.; SKRABULIS, D.I.

Efficient method for the manufacture of rubber parts for molded rubber-and-textile footwear. Kauch. i rez. 23 no.5:51-52 My '64. (MIRA 17:9)

1. Kaunasskiy kombinat rezinovykh izdeliy "Inkaras".

DAMEROVSKAYA, Yu.F.

[Pneumonia in infants and its prevention] Zapalenne lehkikh u dziatsei ranniaha uzrostu i iaho papiaredkanno. Minsk, Dziarzh. vid-va BSSR, 1955. 27 p. (MLRA 10:3)
(PNEUMONIA)

PARNAS, I.K.; ZAZUGA, K.; DAMBROVSKIY, T.

Studies on mud fever in Poland during the period 1955-1957.
Zhur.mikrobiol.epid. i immun. 30 no.3:79-84 Mr '59.
(MIRA 12:5)

1. Iz Gosudarstvennogo instituta trudovoy meditsiny i sel'skoy gigiyeny i kafedry mikrobiologii Lyublinskoy meditsinskoy akademii.

(LEPTOSPIROSIS, transm.
natural foci of leptospirosis grippotyphosa in Poland (Rus))

BATERKA, IZABELLA

Ramienice; klucz do oznaczania gatunków krajowych. (Wyd. 1.) Warszawa, Państwowe Wydawn. Naukowe, 1954. 127 p. (Charales: a key for distinguishing the Polish species. 1st ed. illus., bibl., index)

SO: Monthly List of East European Accessions, (MELL), LC, Vol. 4, no. 10, Oct. 1955, Encl.

ROGOZ, Jerzy; DAMBSKA, Jozefa

Effect of the concentration of blood platelets on the production of thrombokinase. Pol. med. wewnet. 32 no.7:747-750 '62.

1. Z I Kliniki Chorob Wewnetrznych Slaskiej AM w Katowicach Kierownik: prof. dr med. J. Japa.
(THROMBOPLASTIN) (BLOOD PLATELETS)

FOREMNY, Zbigniew; ROGOZ, Jerzy; LUCIAK, Mieczyslaw; DAMBSKA, Jozefa

Carcinoid syndrome. Pol. arch. med. wewnet. 34 no.11:1471-1476 '64.

1. Z I Kliniki Chorob Wewnetrznych Slaskiej Akademii Medycznej w Katowicach (Kierownik: prof. dr. med. J. Japa) i Zakladu Anatomii Patologicznej Slaskiej Akademii Medycznej w Zabrzu (Kierownik: prof. dr. med. W. Piepolomski).

POLAND / General Problems of Pathology. Experimental Treatment. U-5

Abs Jour : Ref Zhur - Biol., No 10, 1958, No 46955

Author : Dambska, Maria
Inst : Not given
Title : Juvenile Melanoma

Orig Pub : Nowotwory, 1956, 6, No 2, 103-112.

Abstract : Twenty-three cases of juvenile melanoma are described. A detailed survey of problems of the clinical course of the above disease is presented as well as of the data on histological studies.

Card 1/1

DAMESKA, Maria; KRASNICKA, Zuzanna; MICHALEWICZ, Roman

Hydroanencephalia in the course of congenital toxoplasmosis. Neuropat. Pol. 3 no.1/2:49-58 Ja-Je '65.

1. Z Zakladu Neuropatologii Polskej Akademii Nauk w Warszawie (Kierownik: prof. dr. med. E. Osetowska) i z Kliniki Terapii Chorob Dzieciecych (Kierownik: doc. dr. med. M. Zapasnik-Kobierska).

DAMBSKA, Maria; KASPEREK, Stefan

Syringohydromyelia. Neuropat. Pol. 3 no.1/2:65-69 Ja-Je '65.

1. Z Zakladu Neuropatologii Polskej Akademii Nauk w Warszawie (Kierownik: prof. dr. med. E. Osetowska).

JEDRZEJOWSKA, Hanna; DAMBSKA, Maria

On the problem of the so-called chronic anterior poliomyelitis. Neur. &c. polska 10 no.6:769-776 '60.

1. Z Kliniki Neurologicznej A.M. w Warszawie p.o. Kierownika: prof. dr med. I.Hausmanowa-Petrusewicz i z Pracowni Warszawskiej Zakladu Neuropatologii PAN, Kierownik Pracowni: doc.dr med. E.Osetowska.

(POLIOMYELITIS case reports)

DAMBSKA, Maria

Neuropathology of changes observed during epileptic seizures. Postepy hig. i med. dosw. 14 no.6:667-678 '60.

1. Z Pracowni Warszawskiej Zakladu Neuropatologii PAN Kierownik: prof. dr A. Kunicki Kierownik pracowni: doc. dr E.Osetowska.
(EPILEPSY pathol) (BRAIN pathol)

DAMSKA, Maria; DOWGIALLO, Maria

Co-existence of syringomyelia with congenital abnormalities of the spine. Polski tygod. lek. 16 no.11:389-392 13 Mr '61.

1. Z Kliniki Neurologicznej A.M. w Warszawie; kierownik: prof. dr I. Hausmanowa-Petrusewicz.

(SYRINGOMYELIA compl) (SPINE abnorm)

DAMBSKA, Maria

A case of cortical blindness consecutive to bilateral hemorrhage of the occipital lobe. Klin. oczna 31 no.2:151-156 '61.

1. Z Pracowni Warszawskiej Zakladu Neuropatologii PAN Kierownik Pracowni: doc. dr med. E.Osetowska Z Kliniki Neurologicznej AM w Warszawie Kierownik: prof. dr med. I.Hausmanowa-Petrusewicz.
(CEREBRAL HEMORRHAGE compl) (BLINDNESS etiol)

DAMBSKA, Maria; CZOCHANSKA, Jagna; OSSAKOWSKI, Miroslaw

A case of infantile type of amaurotic idiocy (Tay-Sachs). Neuropathological and histochemical studies. Pat. polska 13 no.2:159-171 '62.

1. Z Pracowni Warszawskiej Zakladu Neuropatologii PAN Kierownik: doc. dr med. E. Osetowska Z Kliniki Diagnostyki Chorob Dzieciecycy AM w Warszawie Kierownik: prof. dr med. Z. Lejmbach.
(AMAUROTIC FAMILIAL IDOCY pathol)

DAMBSKI, B.

DAMBSKI, B. Petrochemistry as a new large branch of the chemical industry. p. 203

Vol. 9, no. 7/8, July/Aug. 1956
CHEMIK
SCIENCE
Warszawa, Poland

So: East European Accession, Vol. 6, no. 2, Feb. 1957

DAMBSKI, JERZY.

Crania eta alia ossa Polonica. Wczesnosredniowieczne cmentarzysko w Konskich. Wyd. 1. Wroclaw, Panstwowe Wydawn. Naukowe, 1955. 54 p. Materialy i prace antropologiczne, nr. 3 Early medieval cemetery in Konskie. English and Russian summaries. 1st ed. illus., bibl., tables.

SOURCE: East European Accessions List (EEAL), LC, VOL. 5, no. 3, March 1956

DAMBSKI, R

Country : Poland
Category Chemical Technology. Chemical Products and Their Applications. -- Dyeing & Chem. Treatment of Text.
Abs. Jour R. Zh. - Khim., No. 11, 1959 Materials. 41032

H-34

Author : Dambski, R.
Institut. : Not given
Title : The Part Played by Chemistry in the Textile Industry

Orig Pub. : Chemik, 11, No 1, 26-30 (1958)

Abstract : The author reviews briefly the importance of the application in the textile industry of surface-active agents, dyestuffs, various chemicals (acids, bases, starch, etc.), and finishing agents. A review of the various methods used in the modification of natural fibers is also given and some statistical data are presented.

I. Fodiman

Card: 1/1

POLAND/Chemical Technology. Chemical Products and Their Applications. Chemical Processing of Natural Gases and Petroleum. Motor and Rocket Fuels. Lubricants.

Abs Jour: Ref Zhur-Khim., No 8, 1959, 28899.

currently expanding production of synthetic butadiene-styrene [Buna S or GRS] and butadiene-acrylonitrile [Buna N or GRN] rubber, the synthetic polyester fiber terylene [dacron] produced from ethylene glycol, p-xylene, and products obtained by the cracking and reforming of petroleum crude; polyethylene and other plastics; 'epicote' resins used in surface coatings; and of synthetic detergents and fertilizer. The West German petrochemicals industry is developing the production of polyethylene and of synthetic rubbers. In France the industry is

Card : 2/3

DAMBSKI, R.

SCIENCE

Periodicals: CHEMIK. Vol. 11, no. 7/8, July/Aug. 1958.

DAMBSKI, R. Plastics in architecture. p. 237.

Monthly List of East European Accessions (EEAI) LC Vol. 8, No. 4, April 1959, Unclass.

TUMUL'KAN, A.(Riga); DAMBURG, N. [Damburgs, N.](Riga)

Retarding radiation of strontium enamel. Vestis Latv ak no.8:59-62 '60. (EEAI 10:9)

1. Akademiya nauk Latviyskoy SSR, Institut fiziki.

(Radiation) (Strontium) (Enamel and enameling)

DAMBURG, R. Ya.; Veldre, V.

About selection of atomic electron functions for the problem of collisions. In Russian. p. 57.

LATVIIAS PSR ZINATNU AKADEMIJA. VESTIS. RIGA, LATVIA. No. 7, 1959

Monthly List of East European Accessions. (EEAI) LC, Vol. 9, no. 2, Feb. 1960 Uncl.

Damburg, R. Ya.

PHASE I BOOK EXPLOITATION SOV/3753

Akademiya nauk Latviyskoy SSR. Institut fiziki

Elektromagnitnyye protsessy v metallakh (Electromagnetic Processes in Metals) Riga, Izd-vo AN Latviyskoy SSR, 1959. 200 p. (Series: Its: Trudy, No. 11) Errata slip inserted. 1,000 copies printed.

Ed.: A. Teytel'baum; Tech. Ed.: A. Klyavinya; Editorial Board: V.G. Vitol, T.K. Kalnyn', I.M. Kirko (Resp. Ed.), and Ya. Ya. Klyavin'.

PURPOSE: This book is intended for physicists interested in electromagnetic processes in metals.

COVERAGE: This is a collection of fifteen articles by various authors on the investigation of electromagnetic processes in metals by modeling. Individual articles treat the following: conditions necessary for modeling particular phenomena; modeling the magnetization of ferromagnetic metals in a variable field on an iterated network consisting of choke coils with saturable reactors and constant resistances; external fields produced by ferromagnetic tubes which have been magnetized in a constant uniform field oriented along the axis; the possibility of using galvanic baths and other models for investigating fields with continuously distributed electromagnetic forces, particularly turbulent fields; the magnetization of a system of interacting cylindrical particles; determination of the criterion relationships for the motions of an asynchronous engine rotor with similar mechanical characteristics (rotational moment, period of rotational oscillations around a point of equilibrium and attenuation ratio) when the slip is close to unity; the problem of computing the ponderomotive forces acting on a cylindrical conducting body placed in the traveling magnetic field of a cylindrical inductor; the motion of a sphere in magnetic hydrodynamics; the reflection and refraction of hydromagnetic waves of arbitrary polarization on the boundary of two ideal incompressible liquids with infinite conductivity; a study of phenomena in the turbulent flow of liquid metal in induction pumps under the effect of a traveling magnetic field; the operating principle of d-c pumps and the computation of their electromagnetic and hydraulic characteristics; abbreviating computations in designing linear induction pumps as suggested by I.A. Tyutin; nomographic computation of functions $\varphi(k', h)$ and $\psi(k', h)$; and the construction of heaters producing thermal energy by an induced current. No personalities are mentioned. References accompany the articles.

1/3

10.2000 24.4300, 24.2300

S/124/62/000/003/006/052
D237/D301

AUTHORS: Damburg, R.Ya., and Kravchenko, V.Ya.

TITLE: Behavior of hydromagnetic waves on the boundary of two media

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 3, 1962, 2, abstract 3B7 (Tr. In-ta fiz. AN LatSSR, 1959, 11, 129 - 141)

TEXT: The problem of the reflection and refraction of arbitrarily polarized hydromagnetic waves on the boundary of two ideal incompressible fluids of infinite conductivity, was studied by P.H. Roberts (Astrophys. Journal 1955, 121). However, by using a false assumption about the immobility of the boundary, he obtained the incorrect results for amplitude relations of the incident, reflected and refracted waves. This work aims to correct the errors of P.H. Roberts and to study the problem of the passage of hydromagnetic waves through vacuum. It is also shown that in this case the methods of formal magnetic hydrodynamics gives the same results as the theory of two-component fluid. (A. Shlyuter. Probl. sovrem.

Card 1/2

Behavior of hydromagnetic waves on ... S/124/62/000/003/006/052
D237/D301

fiz. Sb. perev. i obz. in. period. lit. 1956, no. 2). [Abstractor's note: Complete translation.]

Card 2/2

3365

S/051/62/012/001/014/020
E032/E514

24.6712

AUTHORS: Gorshanova, A.F. and Damburg, R.Ya.

TITLE: Effect of strong coupling in the collisions of electrons with hydrogen atoms

PERIODICAL: Optika i spektroskopiya, v.12, no.1, 1962, 113-114

TEXT: It is stated that there is poor agreement between theory and experiment as regards the scattering of slow electrons by hydrogen atoms and the excitation of the 2s and 2p levels of hydrogen by these electrons. The Born approximation cannot be used at low energies and, therefore, the problem must be solved by solving the differential and integro-differential equations. It is usual to employ a two-state approximation. Only recently papers have appeared in which three states are taken into account (Ref.1: K. Smith, W. F. Miller, A.J.P. Mumford, Proc.Phys. Soc., 76, 559, 1960; Ref.2: V.M.Burke, M.J.Seaton. Ibid, 77, 199, 1961). The present authors report calculations of partial cross-sections for elastic scattering and the excitation of 2s and 2p levels of hydrogen from the ground 1s-state, based on the total angular momentum representation described by Percival and Seaton

Card 1/3

(Ref.3: Proc. Cambr. Phys. Soc., 53, 654, 1957). Exchange effects were not taken into account. The coupling between the 1s, 2s and 2p states was rigorously allowed for. The appropriate system of second order differential equations was solved on the BESM II (BESM II) by an interpolation method with one iteration (method XI in W. E. Milne's "Numerical solution of differential equations"). The results for L = 0 are given in a table.

Effective cross-sections in units of πa_o^2

	k_o (in at.units)				
	0.9	1.0	1.2	1.5	2.0
Elastic scattering 1s-1s	2.63	2.09	1.39	0.813	0.390
Exc.2s 1s-2s	0.222	0.169	0.0596	0.0251	0.0102
Exc.2p 1s-2p	0.157	0.100	0.0819	0.0371	0.0104

The above results indicate that the schematic method given by V. M. Burke and M. J. Seaton (Ref.2) gives the correct

33045

Effect of strong coupling S/051/62/012/001/014/020
E032/E514

qualitative description of the effect of strong coupling. However, numerical integration is essential if accurate quantitative results are required. Preliminary calculations for $L > 0$ indicate that strong coupling plays an important role in the case of higher angular momenta. A more detailed account of these calculations will be published in the near future in Izvestiya AN Latv.SSR. Comparison with experimental data will also be given. There are 1 table and 5 references, all non-Soviet The English-language reference not quoted in the text reads as follows: Ref.5: B. H. Bransden, J.S.C. McKee. Proc.Phys.Soc., A69, 422, 1956.

SUBMITTED: April 7, 1961

[Abstractor's note: This is a condensed translation.]

Card 3/3

S/051/62/012/005/021/021
E032/E514

AUTHORS: Damburg, R.Ya. and Peterkop, R.K.

TITLE: On the role of the scattered wave with angular momentum L-1 in 1s-2p-transitions

PERIODICAL: Optika i spektroskopiya, v.12, no.5, 1962, 656-657

TEXT: In calculations concerned with the excitation of the 2p-level of hydrogen by electrons with total angular momentum $L > 0$, it is usual to take into account only the L-1 wave. The authors report estimates of the contribution of the scattered wave with angular momentum L + 1 to the cross-section. The results of the calculations are given in the following table.

k,at.units	L	Born approximations		Distorted wave approximation 0		+		-	
		L-1	L+1	L-1	L+1	L-1	L+1	L-1	L+1
0.9	1	0.467	0	0.0006	0	0.108	0.0001	0.299	0.0001
	2	0.096	0	0.654	-	0.803	-	0.004	0
1.0	1	0.489	0	0.0002	0.001	0.202	0.006	0.140	0.002
	2	0.356	0.002	1.133	0.001	1.711	0.001	0.004	0.0001

Card 1/2

On the role of the ... S/051/62/012/005/021/021

1.2	1	0.256	0	0	0.003	0.034	0.034	0.031	0.002
	2	0.300	0.001	0.433	0.004	1.611	0.010	0.015	0.001
1.5	1	0.092	0.0001	0	0.001	0.003	0.018	0.003	0.001
	2	0.199	0.001	0.125	0.006	0.344	0.015	0.018	0.001
2.0	1	0.022	0.0003	0	-	0.0002	0.003	0.0001	0.0002
	2	0.059	0.0003	0.024	0.003	0.046	0.007	0.009	0.001

0 without exchange, + symmetric case, - antisymmetric case.

All the cross-sections are given in units of πa_o^2. Other results will be published in Izvestiya AN Latvian SSR.
There is 1 table.

SUBMITTED: December 11, 1961

Card 2/2

S/051/62/012/006/015/020
E032/E314

AUTHOR: Dashuk, R.Ya.

TITLE: On the excitation of 2s and 2p levels of atomic hydrogen by electron impact

PERIODICAL: Optika i spektroskopiya, v.12, no. 6, 1962, 787 - 789

TEXT: Use is made of the equations describing collisions of slow electrons with hydrogen atoms, as given by I.C. Percival and M.J. Seaton (Ref. 3 - Proc. Cambr. Phil. Soc., 53, 654, 1957). Exchange effects are neglected but all the terms representing the coupling between 1s, 2s and 2p levels are taken into account. With given L , there are 3(L = 0) or 4(L ≥ 1) related differential equations. These equations were investigated numerically, using the БЭСМ-П (BESM-P) computer. All the elements of the T matrix, the corresponding partial cross-sections for transitions between the above levels (L between 0 and 6) and the total excitation cross-sections σ(1s→2s) and σ(1s→2p) have been found. Fig. 1 shows

Card 1/3

S/051/62/012/006/015/020
E032/E314

On the excitation of ....

the total excitation cross-section $\sigma(1s - 2s)$ as a function of energy [1 - experiment; 2 - approximate allowance for strong coupling (Ref. 2 - V.M. Burke, M.I. Seaton. Proc. Phys. Soc., 77, 199, 1961); 3 - first Born approximation (Ref. 2); 4 - present work] . There are 2 figures.

SUBMITTED: December 30, 1961

Card 2/2

2196
S/051/62/013/004/016/023
E039/E491

AUTHORS: Damburg, R.Ya., Peterkop, R.K.

TITLE: The collisions of electrons with hydrogen atoms taking into account strong bonds and exchange

PERIODICAL: Optika i spektroskopiya, v.13, no.4, 1962, 597-598

TEXT: Results of calculations on collision cross-sections are presented assuming full orbital moment $L = 0$ and taking account of exchange and bonds between 1s, 2s and 2p levels. A system of three integrodifferential equations was solved containing ten definite integrals. The calculations were made on a БЭСМ-2 (BESM-2) computer. In table 1, direct, exchange, interference and neutralization cross-sections are presented. The amplitude of direct and exchange cross-sections is defined by

$$f = \frac{1}{2}(f^+ + f^-); \quad g = \frac{1}{2}(f^+ - f^-)$$

where f^+ and f^- are the amplitudes of singlet and triplet cross-sections. These and the neutralization cross-section have the form $\sigma^{\pm} = |f|^2 + |g|^2 \pm 2\,\mathrm{Re}\,(fg^*)$, $\sigma = |f|^2 + |g|^2 - \mathrm{Re}\,(fg^*)$.

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The collisions of electrons ...

For comparison, earlier results are included on elastic scattering without taking strong bonds into account. Also presented are results of calculations on neutralization cross-sections summed over L values from 0 to 2 and compared with previous calculations, (table 2). Improved agreement with experimental data is obtained. There are 2 tables.

SUBMITTED: April 17, 1962

Table 2

E, at.units	$\sigma(1s\text{-}2s)\ \pi a_0^2$			$\sigma(1s\text{-}2p)\ \pi a_0^2$		
	a	b	c	a	b	c
0.5	0.023	0.226	0.192	1.160	0.457	0.297
1.0	0.471	0.344	0.323	1.193	0.610	0.526

a - with strong bonds and without exchange, b - with exchange and without strong bonds, c - with exchange and strong bonds.

Card 2/3

S/056/62/042/003/028/049
B102/B138

AUTHORS: Damburg, R. Ya., Iolin, Ye. M.

TITLE: Calculation of the diamagnetic susceptibility of helium

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 3, 1962, 820

TEXT: Bethe and Salpeter have pointed out that the value of $\overline{r^2}$ for one electron in the He ground state, calculated by the Hartree function, is smaller than the value obtained from recent experiments. It is now shown that this discrepancy cannot be attributed to an inaccurate representation of the wave function. Numerical calculations were carried out with a [illegible]-2 (BESM-2) computer for the more exact wave function given by Kinoshita. The result was the same as obtained with the Hartree function and it is concluded that the experimental value should be verified. There are 4 non-Soviet references. The two references to English-language publications read as follows: T. Kinoshita. Phys. Rev. 105, 1490, 1957; 115, 366, 1959. J. H. Bartlett. Phys. Rev. 98, 1067, 1955.

Card 1/2

S/056/62/042/003/028/049
B102/B138

Calculation of the diamagnetic ...

ASSOCIATION: Institut fiziki Akademii nauk Latviyskoy SSR (Institute of Physics of the Academy of Sciences, Latviyskaya SSR)

SUBMITTED: September 15, 1961

Card 2/2

24.6110

43368
S/056/62/043/005/029/058
B102/B104

AUTHORS: Damburg, R. Ya., Peterkop, R. K.

TITLE: Excitation of the 2s and 2p levels of the hydrogen atom by slow electrons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 5(11), 1962, 1765 - 1768

TEXT: As the results obtained among others by Marriott (Proc. Phys. Soc. 72, 121, 1958) and Smith (Phys. Rev. 120, 845, 1960) showed that exchange effects and also level coupling would play a great role in collisions between slow electrons and hydrogen atoms, the authors calculated the 2s and 2p excitation cross sections taking full account of exchange and of all coupling between 1s-2s-2p. The calculations are carried out for $0 \leq L \leq 4$ when the amplitudes for direct and exchange transitions are given by $f_L = \frac{1}{2}(f_L^+ + f_L^-)$, $g_L = \frac{1}{2}(f_L^+ - f_L^-)$, f_L^+ and f_L^- denoting the singlet and triplet amplitudes. The averaged cross sections are then

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$$\sigma_L^{\pm} = |f_L|^2 + |g_L|^2 \pm 2\mathrm{Re}(f_L g_L^*), \quad (2)$$

$$\sigma_L = |f_L|^2 + |g_L|^2 - \mathrm{Re}(f_L g_L^*). \quad (3)$$

The partial cross sections are tabulated in terms of πa_o^2 for various electron momenta (k) and for various level excitations. In some cases agreement between theory and experiment is good (cf. Fig. 1). For k = 2 at.units (=54 ev) the theoretical cross section

$$\sigma_{\perp}(1s - 2p) = 0{,}918\,\sigma(1s - 2p) + 0{,}246\,\sigma(1s - 2p, 0), \quad (4)$$

is near to the experimental and the polarization

$$P(2p) = \frac{\sigma(1s - 2p, 0) - \sigma(1s - 2p, \pm 1)}{2{,}375\,\sigma(1s - 2p, 0) + 3{,}749\,\sigma(1s - 2p, \pm 1)} \cdot 100, \quad (5)$$

agrees within the limits of error. σ(1s-2p,0) and σ(1s-2p,±1) are the 2p excitation cross sections when the projection of the orbital momentum of the atomic electron onto the direction of the incident electron equals zero and

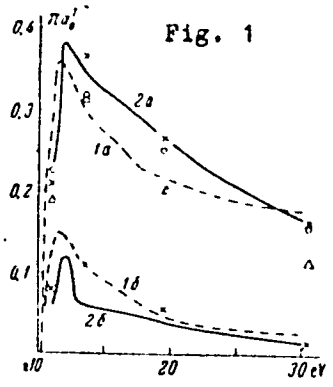
Excitation of the 2s and 2p levels...

±1, respectively. At small energies σ(1s-2p) is much greater than the experimental cross section (Phys. Rev., 116, 356, 1959) and P(2p) is much smaller. There are 2 figures and 2 tables.

SUBMITTED: May 19, 1962

Fig. 1. 2s excitation cross section in terms of πa_0^2 as dependent on energy (a_0 - Bohr's radius). a - averaged cross sections; b - $|g|^2/2$. (1) experimental curves (Lichten, Schultz, Phys. Rev. 116, 1132, 1959), (2) sum σ_2 of partial cross sections taken over L=0,1,2, calculated by the method of distorted waves and taking account of exchange (Peterkop, Optika i spektr., 12, 145, 1962); O - σ_2 with account of 1s-2p coupling, Δ - σ_2 with account of all coupling.

Fig. 1



Table

k, at. un.	σ (1s−2p, ±1)	σ (1s−2p, 0)	P (2p), %
0,9	0,068	0,215	19,2
1,0	0,096	0,602	28,3
1,2	0,128	0,897	29,5
1,5	0,197	0,673	20,4
2,0	0,237	0,433	10,2

Card 3/3

S/051/63/014/002/025/026
E039/E120

AUTHORS: Damburg, R.Ya., and Karule, E.M.

TITLE: The scattering of positrons by hydrogen atoms

PERIODICAL: Optika i spektroskopiya, v.14, no.2, 1963, 311-312

TEXT: Calculations are carried out on the cross-section for elastic scattering in the ground state - $\sigma(1s - 1s)$ and excitation levels $2s$ - $\sigma(1s - 2s)$ and $2p$ - $\sigma(1s - 2p)$ with a pulse of positrons from $k = 0.9$ to 2.0 (in atomic units). The problem was solved for full orbital moment L by I.C. Percival and M.I. Seaton (Proc. Camb. Phil. Soc., 53, 1957, 654). Partial cross-sections for $L = 0, 1, 2, 3, 4$, taking into account strong coupling between $1s$, $2s$ and $2p$ levels, are found by the numerical solution of a system of differential equations; the possibility of forming positrons is disregarded. The contribution of the high wave with $L > 4$ is taken from the work of V.M. Burke and M.I. Seaton (Proc. Phys. Soc., 77, 1961, 199) in which strong coupling is taken into account using the first Born approximation. Results of these calculations are presented in Table 1. Unlike electron excitation, $\sigma(1s - 2s)$ for positrons does not show a

sharp maximum. Strong coupling between the 1s, 2s, 2p levels for positrons shows a greater influence on $\sigma(1s - 2s)$ than for electrons. Calculation of $\sigma(1s - 2s)$ (K. Smith, W.F. Miller and A.J.P. Mumford, Proc. Phys. Soc., 76, 1960, 559) by the wave distortion method and with strong coupling between the 1s - 2s - 3s levels does not change the cross section. The present cross-sections are higher by a factor of two or more than those given by K. Smith et al. in the above mentioned work. This difference has not been obtained previously. The present calculations give values about 20% higher than the experimental values for 2p level excitation and 15-35% less than calculated values using the Born approximation. Comparison with the calculations of B.H. Bransden (Proc. Phys. Soc., 79, 1962, 190) showed that the formation of positrons in the ground state has less effect than strong coupling on the partial cross-section for elastic scattering for $L = 0, 1$ and $k = 0.9, 1$ (Table 2). The present value of $\sigma(1s - 1s)$ for $k = 2$ is in good agreement with the results obtained by A.E. Kingston and B.G. Skinner (Proc. Phys. Soc. 77, 1961, 724) who use the second Born approximation and take into account the

The scattering of positrons by ... S/051/63/014/002/025/026
E039/E120

distortion of incident waves and polarization and the 1s, 2s and 2p intermediate conditions. There are 2 tables.

SUBMITTED: August 20, 1962

Table 1.

Full scattering cross-section for positrons on hydrogen atoms (in units of πa_0^2)

k, atomic units	σ(1s - 1s)	σ(1s - 2s)	σ(1s - 2p)
0.9	0.626	0.047	0.054
1.0	0.589	0.131	0.212
1.2	0.515	0.204	0.597
1.5	0.426	0.193	0.924
2.0	0.310	0.126	0.963

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Table 2

Partial cross-sections for elastic scattering of positrons on hydrogen atoms (in units of πa_0^2)

L	k, atomic units	$\sigma_L^I(1s - 1s)$	$\sigma_L^{II}(1s - 1s)$	$\sigma_L(1s - 1s)$
0	0.9	0.781	0.781	0.587
0	1.0	0.666	0.729	0.542
1	1.0	0.088	0.102	0.021

Note: $\sigma_L^I(1s - 1s)$ - obtained by wave distortion method.

$\sigma_L^{II}(1s - 1s)$ - calculated taking positron formation into account.

$\sigma_L(1s - 1s)$ - calculated in this paper taking into account strong coupling.

Card 4/4. [Abstractor's note: Slightly abridged translation.]

B/056/63/044/001/042/067
B141/B102

AUTHORS: Damburg, R. Ya., Peterkon, R. K.

TITLE: Resonances in electron scattering from hydrogen atoms

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 1, 1963, 244 - 246

TEXT: The behavior of the elastic scattering cross section near the excitation threshold of the 2s levels is investigated taking account of the strong coupling between the 1s and 2s levels for the incident s- and p-waves. According to Ross and Shaw (Ann. of Physics, 13, 147, 1961; Phys. Rev., 126, 806, 1962) the behavior of the cross section near the threshold of a new channel is investigated with the help of the matrix M with the elements $M_{ij} = k_i^{l_i+1/2} (K^{-1})_{ij} k_j^{l_j+1/2}$, where K is the reaction matrix. In the case of two channels with $l_1=l_2=1$ elastic scattering via the "prior" channel is described by

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Resonances in electron scattering...

$$\sigma_l = \frac{4\pi(2l+1)}{k_1^2+\gamma_l^2}, \qquad k_1^2 \leqslant 2E_0; \tag{2}$$

$$\gamma_l = \frac{1}{k_1^{2l}}\left(M_{11} - \frac{M_{12}^2}{M_{22}+(-1)^l|k_2|^{2l+1}}\right), \qquad k_2^2 = k_1^2 - 2E_0; \tag{3}$$

$$\sigma_l = \frac{4\pi(2l+1)(M_{22}^2+k_2^{4l+2})}{|(M_{11}-ik_2)(M_{22}-ik_2)-M_{12}^2|^2}, \qquad k_1^2 > 2E_0. \tag{4}$$

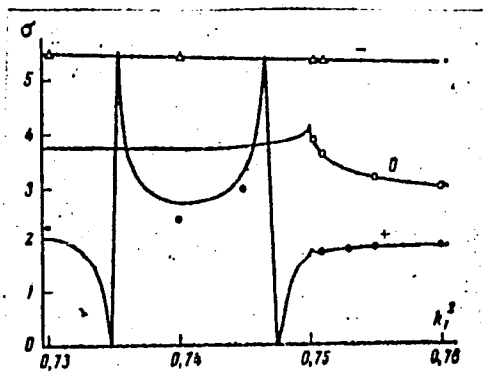
The threshold energy for excitation of the 2s level is E_0=0.75 at.un. The authors have calculated $M_{ij}(E) = M_{ij}(E_0) + R_{ij}(E_0)(E-E_0)$ for $E > E_0$ in effective-radius approximation by electronic computation of the system of integro-differential equations according to Marriott (Proc. Phys. Soc. 72, 121, 1958) and Method XI from Miln's book "Numerical integration of differential equations". $M_{ij}(E_0)$ and the effective radii $R_{ij}(E_0)$ are calculated for the singlet (+), triplet (-), and the exchangeless (0) cases (cf. Fig. 1). It is shown that the Ross and Shaw's assumption that the off-diagonal radii are much smaller than the diagonal ones is not always

fulfilled. The second resonance found by them is proved to be not a true one; it arises from neglecting the higher terms in the expansion of M, which are considerable (an estimate yields $10 - 10^3$). For the elastic scattering of the p-wave only one peak is found; it belongs to the triplet cross section and is positioned at $\sigma = 0.74\ k_1^2$ (given in terms of πa_o^2), calculated with the first three terms of the expansion. The peaks observed by Smith et al. (Phys. Rev. 125, 553, 1962) are sub-threshold effects. There are 2 figures and 1 table.

ASSOCIATION: Institut fiziki Akademii nauk Latviyskoy SSR (Institute of Physics of the Academy of Sciences Latviyskaya SSR)

SUBMITTED: July 17, 1962

Fig. 1. Elastic scattering cross section of the s-wave in terms of πa_o^2 calculated in effective-radius approximation. The marks give the points of calculation.



Card 4/4

ACCESSION NR: AT4001251 S/2668/63/000/013/0011/0016

AUTHOR: Damburg, R. Ya.

TITLE: Accounting for a strong coupling during the collision of electrons with a hydrogen atom

SOURCE: AN LatSSR. Institut fiziki. Trudy*, no. 13, 1963, 11-16

TOPIC TAGS: electron collision cross section, electron collision, partial cross section, partial electron collision cross section, electron atom collision, transition cross section, electron scattering, hydrogen atom, collision cross section, nuclear collision

ABSTRACT: A preliminary brief report of this work was published in Opt. i spektr. v. 12, 113, and 787, 1962. Partial cross sections for the collision between electrons and hydrogen atoms are obtained from exact solutions of the systems of differential equations that describe electron-atomic collisions. The calculation is carried out in the total-momentum representation without account of exchange, with the three levels 1s--2s--2p considered. The results are in fair agreement with those of V. Burke and R. McCarroll (Proc. Phys.

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ACCESSION NR: AT4001251

Soc. v. 80, 1962), and some discrepancies between the two results are explained. A comparison with the results of V. Burke and M. Seaton (Proc. Roy Soc. v. 77, 199, 1962) shows that to estimate the contribution of the higher partial waves (for example $L \geq 5$) to the double cross section it is best to use the second Born approximation, in which strong coupling is taken into account. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: Institut fiziki AN LatSSR (Physics Institute, AN LatSSR)

SUBMITTED: 00 DATE ACQ: 10Dec63 ENCL: 00

SUB CODE: PH, NS NO REF SOV: 000 OTHER: 000

Card 2/2

ACCESSION NR: AT4001252 S/2668/63/000/013/0017/0035

AUTHORS: Damburg, R. Ya.; Peterkop, R. K.

TITLE: Collision of slow electrons with hydrogen atoms

SOURCE: AN LatSSR. Institut fiziki. Trudy*, no. 13, 1963, 17-35

TOPIC TAGS: hydrogen atom, slow electron, slow electron collision, electron bombardment, plasma, gas discharge plasma, upper atmosphere, astrophysics, plasma physics, collision cross section, wave function, hydrogen wave function, distorted wave method, nuclear collision

ABSTRACT: The cross sections for the excitations of hydrogen atoms by slow electrons are calculated with full account of exchange and of all the couplings between the levels 1s--2s--2p. Knowledge of these cross sections is of importance to plasma research and upper-atmosphere sounding by means of rockets and satellites. The unsatisfactory agreement between experiments and earlier theoretical

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ACCESSION NR: AT4001252

calculations, made under various assumptions, is noted. The problem is solved on the basis of equations derived by I. C. Percival and M. I. Seaton (Proc. Cam. Phil. Soc. 53, 654, 1957) on the BESM-2 computer of the Latviyskiy gosudarstvenny*y universitet (Latvian State University), using five total orbital angular momentum values, from 0 to 4. The results are compared with other experimental and theoretical data and regions where further research is necessary are pointed out. Orig. art. has: 10 tables and 11 formulas.

ASSOCIATION: Institut/fiziki AN LatSSR (Physics Institute, AN LatSSR)

SUBMITTED: 00 DATE ACQ: 10Dec63 ENCL: 00

SUB CODE: PH, NS NO REF SOV: 008 OTHER: 028

Card 2/2

ACCESSION NR: AT4001253 S/2668/63/000/013/0043/0045

AUTHORS: Damburg, R. Ya.; Karule, E. M.

TITLE: Collision of positrons with hydrogen atoms

SOURCE: AN LatSSR. Institut fiziki. Trudy*, no. 13, 1963, 43-45

TOPIC TAGS: positron, positron collision, hydrogen atom, positron scattering, effective cross section, positron scattering, effective cross section, elastic scattering, positron elastic scattering, partial scattering cross section, elastic scattering cross section, hydrogen, nuclear collision

ABSTRACT: The partial cross sections $\sigma(1s--1s)$ for elastic scattering in the ground state, $\sigma(2s--2s)$ in the excited 2s state, $\sigma(1s--2s)$ for the excitation of the 2s level, and $\sigma(1s--2p)$, $\sigma(2s--2p)$ for the excitation of the 2p level, and $\sigma(2p--2p)$ for elastic scattering in the excited 2p state are calculated for incident-positron momenta

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ACCESSION NR: AT4001253

from k = 0.9 to k = 2.0. The problem is solved in the total orbital momentum representation (I. C. Percival and M. I. Seaton, Proc. Camb. Phil. Soc. v. 53, 654, 1957). The partial cross sections for L = = 0, 1, 2, 3, and 4 with full account of the strong coupling between the levels 1s--2s--2p was obtained by numerical solution of the differential equations and tabulated. Unlike the electron case, σ(1s--2s) with positron excitation does not have a pronounced maximum. Account of the strong coupling is more significant in the case of positron collisions than in the case of electron collisions. The results are compared with researches by others. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Institut fiziki AN LatSSR (Physics Institute AN LatSSR)

SUBMITTED: 00 DATE ACQ: 10Dec63 ENCL: 01

SUB CODE: PH, NS NO REF SOV: 001 OTHER: 010

Card 2/3

ACCESSION NR: AT4001254 S/2668/63/000/013/0047/0053

AUTHORS: Damburg, R. Ya.; Peterkop, R. K.

TITLE: Resonance phenomena in electron scattering on hydrogen atoms

SOURCE: AN LatSSR. Institut fiziki. Trudy*, no. 13, 1963, 47-53

TOPIC TAGS: resonance, nuclear collision, hydrogen, hydrogen atom, electron scattering, elastic scattering, electron elastic scattering, Wigner threshold peak, Wigner threshold

ABSTRACT: Two channels are taken into account in an investigation of resonances in elastic scattering of electrons by hydrogen atoms near the excitation threshold of the 2s level, namely elastic scattering and virtual excitation of the 2s level. The M-matrix elements were calculated with a BESM-2 digital computer. This made it possible to match the solutions obtained above and below threshold for both the singlet and the triplet states. The calculations were

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000509530012-6"

ACCESSION NR: AT4001254

made for incident s waves and p waves, but not for the exchangeless case. The results are compared with calculations by others, especially by K. Smith et al. (Phys. Rev. v. 125, 553, 1962) and it is shown that the maxima observed by the latter correspond to isolated subthreshold resonances of the Breit-Wigner type. The results are also discussed from the point of view of allowance for several approximations (distorted waves, effective radius, weak coupling, strong coupling). Orig. art. has: 4 figures, 18 formulas, and 1 table.

ASSOCIATION: Institut fiziki AN LatSSR (Physics Institute AN LatSSR)

SUBMITTED: 00 DATE ACQ: 10Dec63 ENCL: 00

SUB CODE: PH, NS NO REF SOV: 000 OTHER: 011

Card 2/2

L 10201-63 EWT(1)/EWP(q)/EWT(m)/BDS--AFFTC/ASD--JD

ACCESSION NR: AP3000063 S/0056/63/044/005/1644/1649

54
55

AUTHOR: Gaylitis, M.; Damburg, R.

TITLE: Singularities of the threshold behavior of the cross section for excitation of hydrogen by electrons, due to the existence of a linear Stark effect in hydrogen

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 44, no. 5, 1963, 1644-1649

TOPIC TAGS: Hydrogen excitation by electrons, threshold behavior, linear Stark effect

ABSTRACT: The cross sections for inelastic transitions near threshold (provided one of the particles is charged in the final state) depend, in the case of short-range forces, on the energy as k sub f raised to the 2 l sub f + 1 power, where k sub f and l sub f are the momentum and the angular momentum in the final state. If l sub f = 0, then the cross sections in the old channels have at threshold energy a singularity of the type of a peak or a step. It is shown that when a hydrogen atom is excited with electrons these laws are

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ACCESSION NR: AP3000063

violated as a result of the strong polarized interaction between the departing electron and the hydrogen atom in the excited state. The cross sections oscillate near the threshold. The inelastic cross sections tend to zero only at energies on the order of the relativistic level splitting. Orig. art. has: 29 formulas.

ASSOCIATION: Institut fiziki Akademii nauk Latviyskoy SSR (Institute of Physics, Academy of Sciences, Latvian SSR)

SUBMITTED: 15Dec62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: PH NR REF SOV: 004 OTHER: 008

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Card 2/2

L 14300-65 EWT(1) SSD/ASD(a)-5/AFWL/AS(mp)-2/AFETR/ESD(gs)/ESD(t)/IJP(c)
ACCESSION NR: AP4047936 S/0056/64/047/004/1602/1603

AUTHORS: Damburg, R. Ya.; Peterkop, R. K. B

TITLE: Concerning the single electron approximation in collision theory

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 4, 1964, 1602-1603

TOPIC TAGS: electron scattering, polarization, collision theory, single electron approximation

ABSTRACT: To explain the surprising agreement between the calculations of B. A. Veklenko and I. V. Novobrantsev (ZhETF v. 43, 919, 1962) and the more thorough but also more laborious calculations of A. Temkin (Phys. Rev. 126, 130, 1962) and C. Schwartz (Phys. Rev. v. 124, 1468, 1961), the authors repeated the calculations of Veklenko and Novobrantsev using the BESM-2 computer. It is concluded that

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ACCESSION NR: AP4047936 2

the agreement is due to errors in the numerical calculations. Consequently, further results by Veklenko and others, based on the original data, are likewise in error, as is their conclusion that within the framework of the single-electron approximation it is possible to take correct account of the polarization of the atom by the scattered electron. The main difficulty in applying the single-electron approximation to continuous-spectrum problems lies in the fact that it is not clear what type of stationary potential can be produced by the unbound particle. "We are grateful to A. F. Gorshanova for help with the calculations." Orig. art. has: 2 formulas.

ASSOCIATION: Institut fiziki Akademii nauk Latviyskoy SSR (Institute of Physics, Academy of Sciences Latvian SSR)

SUBMITTED: 20Mar64 ENCL: 00
SUB CODE: NP NR REF SOV: 002 OTHER: 006

Card 2/2

VELDRE, V.Ya., otv. red.; DAMBURG, R.Ya., red.; PETERKOP, R.K., red.; SAVEL'YEVA, Ye., red.

[Electron and atom collisions; atom collisions] Elektronno-atomnye stolknoveniia; atomnye stolknoveniia. Riga, Zinatne. No.2. 1965. 144 p. (MIRA 18:11)

1. Latvijas Padomju Socialistiskas Republikas Zinatnu Akademija. Fizikas instituts.

DAMDINOVA, L.L.

Organizing a brigade of students to study the work of a stock-breeding farm. Politekh. obuch. no.9:36-42 S '57. (MLRA 10:9)

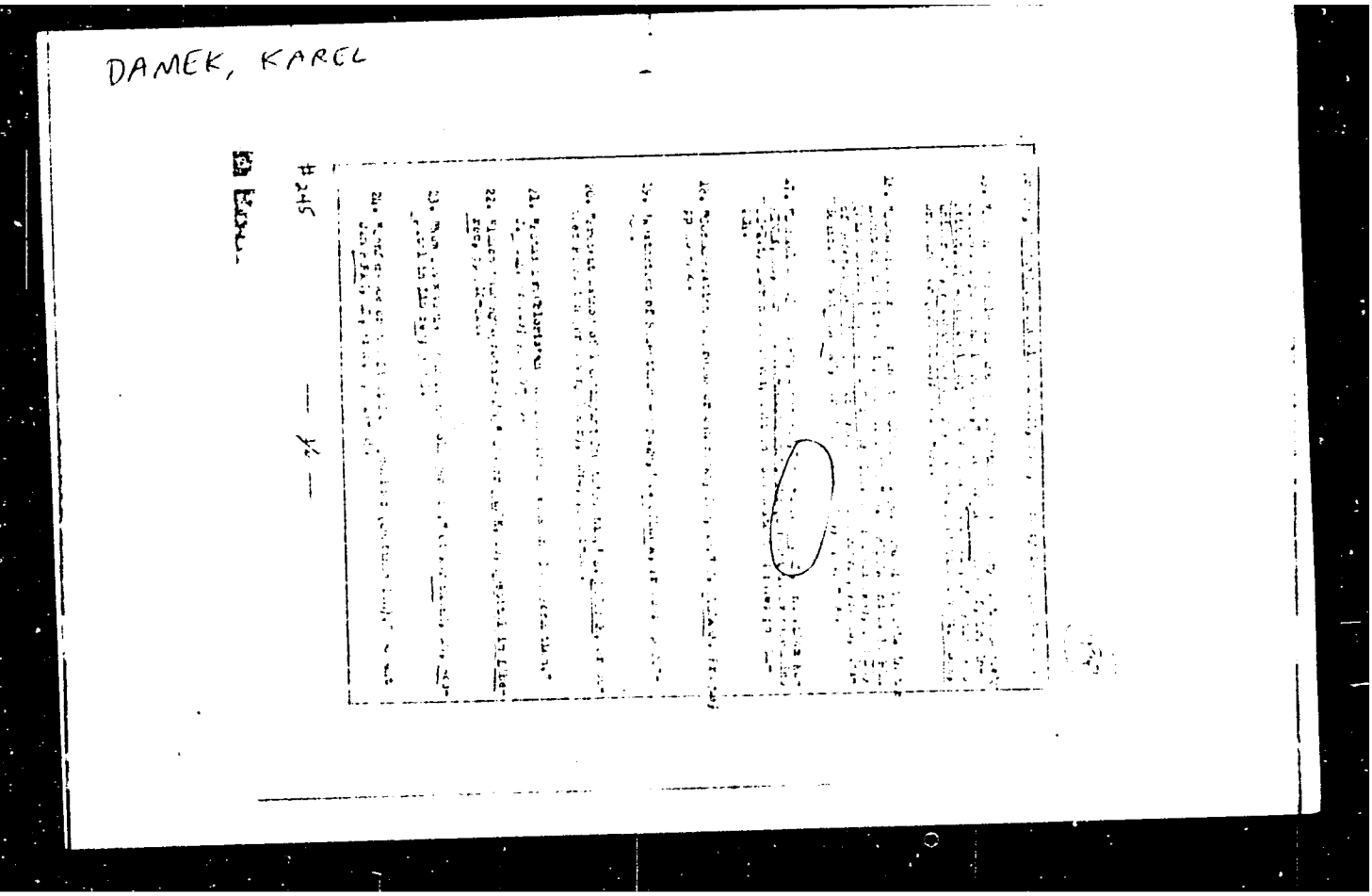
1. Argadinskaya srednyaya shkola Buryat-Mongol'skoy ASSR.
(Stock and stockbreeding--Study and teaching)

DORZH, G.; GONCHARENKO, Ye.I. (L'vov, Poltavskaya ul., 9,kv.5); DAMDINSUREN, B.

History of anatomy in the Mongolian People's Republic. Arkh. anat., gist. i embr. 43 no.8:99-100 Ag. '62. (MIRA 17:8)

1. Kafedra anatomii (zav. - G. Dorzh) Mongol'skogo gosudarstvennogo meditsinskogo instituta. Adres avtorov: Mongol'skaya Narodnaya Respublika, Ulan-Bator, Meditsinskiy institut, kafedra anatomii (for Dorzh, Damdinsuren).

DAMEK, KAREL



S/079/60/030/007/001/020
B001/B063

AUTHORS: Shchukarev, S. A., Morozova, M. P., Damen, Kh.

TITLE: The W - WS_2 System

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 7, pp. 2102-2104

TEXT: Contrary to the sulfides of the 3ds elements, which are homogeneous in a fairly wide range (Refs. 1,2,3,4,5), only little material is available on the ranges of homogeneity of the sulfides of the 4d5s and 5d6s elements. It was the purpose of the present paper to study the phases in the W-WS_2 system. The WSx preparations were produced by homogenizing pulverulent mixtures of pure metallic tungsten and pure sulfur in evacuated quartz ampoules at 800°C. Annealing took 500 h. The four preparations produced had the composition $WS_{0.91}$, $WS_{1.73}$, $WS_{1.98}$, and WS_2. In accordance with data published in the paper of Ref. 6, the X-ray analysis showed only the lines of tungsten and disulfide in the whole interval W-WS_2. Moreover, the two lattices showed no change. No homogeneous preparations were

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obtained by annealing the tungsten-sulfur mixtures. The quantity of sulfur was higher than is necessary for the formation of WS_2. The free sulfur found indicates that WS_2 has no range of homogeneity extending to a higher stoichiometric sulfur content. Thus, it was found that in the W - S system there is only the compound WS_2 which has no noticeable range of homogeneity. As compared to sulfur, tungsten is only tetravalent, whereas chromium shows the neighboring valences 2 and 3, and forms compounds with sulfur that are characterized by wide ranges of homogeneity. Finally, the authors discuss several rules concerning the change in the ranges of homogeneity of oxides and sulfides in the periodic system. It may be seen from the accompanying table that no transfer of sulfur from the sulfide $WS_{1.98}$ to metallic tungsten is observable, which is also the case with the pair $WS_{1.73}$ - $WS_{0.91}$. There are 1 table and 11 references: 3 Soviet, 5 German, 1 Belgian, and 2 British.

The W - WS_2 System

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B001/B063

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University)

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LOGINOV, G.M.; DAMEN, Kh.

Magnetic susceptibility of titanium sulfides TiS - Ti_2S_3. Zhur. neorg.khim. 7 no.3:682-683 Mr '62. (MIRA 15:3)

1. Leningradskiy gosudarstvennyy universitet.
(Titanium sulfides--Magnetic properties)

DAMENIYA L. Ye

CHKHAIDZE, O.V.; DAMENIYA, L.Ye.

Injuries of the excretory hepatic and pancreatic ducts during surgical treatment of duodenal ulcer. Khirurgiia Supplement:34 '57. (MIRA 11:4)

1. Iz kliniki gospital'noy khirurgii (zav. - prof. M.K.Chachava) Tbilisskogo gosudarstvennogo meditsinskogo instituta (dir. - prof. I.T.Mentesbashvili)
(BILE DUCTS--WOUNDS AND INJURIES)
(DUODENUM--SURGERY)

PHASE I BOOK EXPLOITATION SOV/5683

Akademiya nauk Gruzinskoy SSR. Institut elektroniki, avtomatiki i telemekhaniki

Trudy (Academy of Sciences of the Georgian SSR. Institute of Electronics, Automation and Remote Control. Transactions) No. 1. Tbilisi, 1960. 126 p. 500 copies printed.

Ed. A. I. Eliashvili; Deputy Ed.: E. Ualamueridze; Tech. Ed.: A. Thodua.

PURPOSE: This collection of articles is intended for scientists and technical personnel concerned with electronics in general, and machine translations in particular.

COVERAGE: Four out of the nine articles concern machine translation from Georgian into Russian, and vice-versa. Two articles consider general problems of machine translation. The three remaining articles discuss various electronic devices. Articles 1, 3, and 4 are written in Georgian with summaries in Russian. The

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remaining articles are in Russian. No personalities are mentioned. References accompany most of the articles.

TABLE OF CONTENTS:

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DAMENIYA, M.Ye.

Method for constructing synthetic networks for machine translating. Trudy Inst.elek., avtom.i telem.AN Gruz.[redacted]. 2:43-50 '61. (MIRA 14:8)

(Machine translating)

DAMENIYA, M.Ye.

Method for distinguishing homonymous forms in the synthesis of machine translating. Trudy Inst.elek., avtom.i telem.AN Gruz. SSR . 2:51-54 '61. (MIRA 14:8)
(Machine translating)

DAMES, ing.; BOGLAR, Gyula [translator]

New component parts. Hir techn 14 no.6:213-215 B '63.

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2. "Hiradastechnika" szerkesztoje (for Boglar).

DAMETKIN, V.Ye.

Investigating the performance of universal RV-650 regulators.
Avt.i trakt.prom. no.9:18-21 S '57. (MIRA 10:11)

1. Saratovskiy institut mekhanizatsii sel'skogo khozyaystva.
(Tractors--Engines)

DAMETKI', V.Ye., Cand Tech Sci -- (diss) "Study of the RV-650 regulator in relation to wear of its basic parts." Saratov, 1958, 14 pp with graphs (Min of Agr USSR. Saratov Agr Inst) 150 copies (KL, 50-58, 128)

DAMETKIN, V.Ye.; BOLDINSKIY, V.I.

Investigating direct-action regulators. Trakt. i sel'khozmash. 31 no.10:10-12 O '61. (MIRA 14:12)

1. Kubanskiy sel'skokhozyaystvennyy institut.
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DAMIAN, A.; BOTNIAPUC, N.; ANASTASIU, C.

Distribution of zooplankton in the Surian bog. p. 669. Academia Republicii Populare Romine. COMUNICARILE. Bucuresti. Vol. 6, no. 5, May 1956.

SOURCE: East European Accessions List (EEAL) Library of Congress. Vol. 5, no. 9, Sept. 1955