

A. R. S.

*Spectrographic Analysis of Aluminium and its Alloys*  
C

**Spectrographic Analysis of Aluminium and its Alloys.**  
A. R. SERIGANOV. Edited by I. S. Viskhynetskiĭ and S. M.  
Vorobeyev. Trudy Lab. Metalloob. Zavoda. Oboronizatsiya,  
Moscow, 1940. 2d ed. 84 pp. Price 8 R. Reviewed in  
*Khim. Referat. Zhur.*, 4 [3] 54 (1941). M. Ho.

CP

7

Spectroscopic quantitative analysis of aluminum and its alloys. A. R. Striganov. *Bull. acad. sci. U. R. S. S., Ser. Phys.* 4, 184-8(1940); cf. *C. A.* 32, 440; 33, 6751. The spectroscopic analysis of Al and its alloys for Cu, Mg and Si, was carried out by the microphotometric method. The pairs of spectral lines used for measurements were: Al = 2832.5 Å, with Cu = 3274.0 Å, Mg = 2482.1 Å and Si = 2510.1 Å. Roksolana Gankov

Results of spectroscopic analysis of aluminum alloys. A. R. Striganov. *Bull. acad. sci. U. R. S. S., Ser. Phys.* 4, 230-1(1940).—See *C. A.* 34, 5778. R. G.

Hydrobromic acid as an aid in quantitative metal analysis. Herbert Blumenthal. *Metall. u. Erz* 37, 233-4(1940).—The bromides of Sn, Sb and As are easily volatilized in HBr soln.; this eliminates their disturbing influence in many analytical separations. The analysis of com. Sb, Sn, Cu-Sn alloys and Sn-Pb alloys is simplified. In the analysis of com. alloys of Sn and Sb, 10 g. or more of shavings is dissolved in a soln. of about 10 cc. of Br in about 12 cc. of HBr (sp. gr. 1.49). The soln. is evapd. to dryness on a water bath, the residue moistened with some of the above solvent and evapd. again. The residue is finally heated for about 1 hr. at 130°, is then taken up with HNO<sub>3</sub> (1-2), the soln. again evapd. on the water bath, and these operations are then repeated. The elements not volatilized are left as nitrates, and can be analyzed by the customary methods. H. Stoertz

A 33-51.4 METALLURGICAL LITERATURE CLASSIFICATION

142780

1940

1126

E 21

PROCESSES AND PROPERTIES

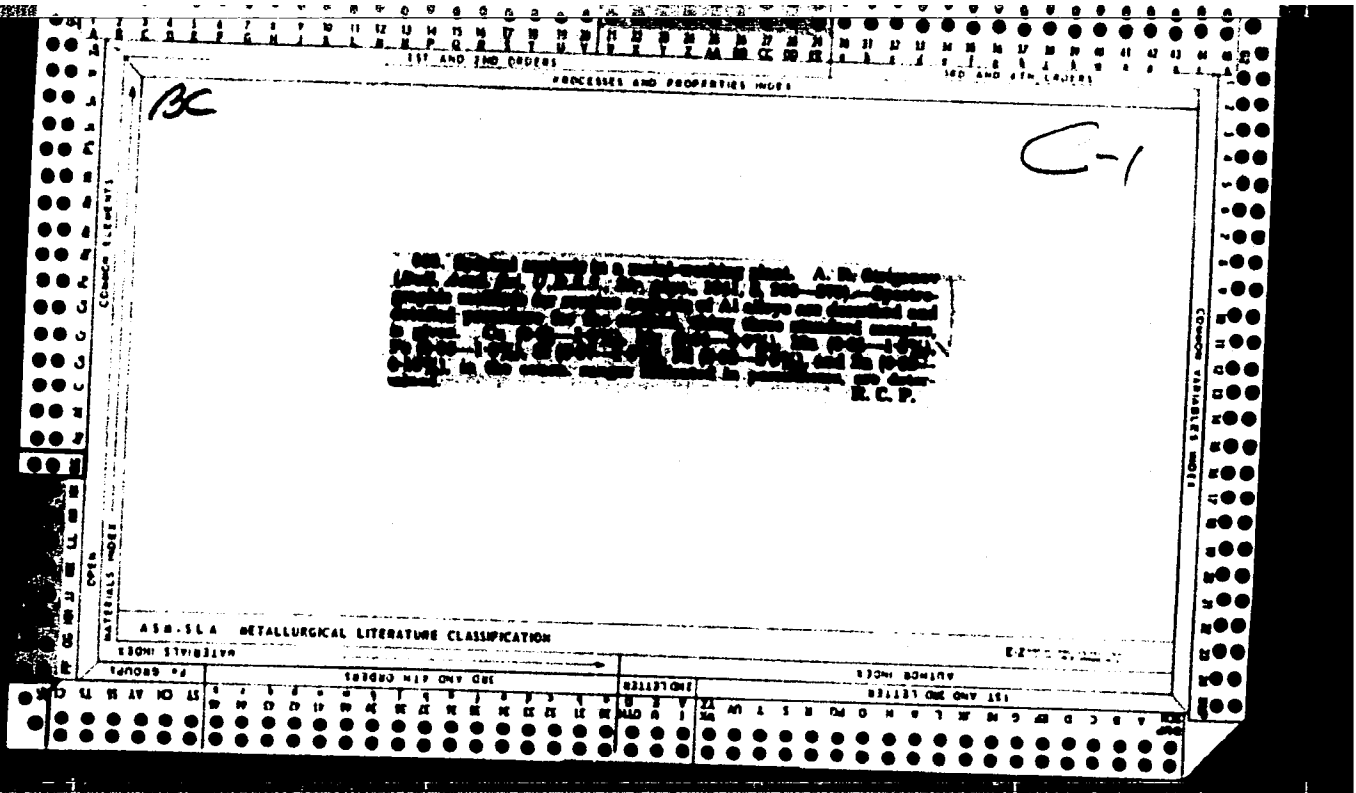
(In Russian) 8. indicates the optimum working conditions

revealed by his own experiments) for the determination of Cu, Mg, Mn, Fe, Ni, and Ni in Al alloys. (For abstract of Part II, see *Met. Abs.*, this vol., p. 223.)

METALLURGICAL LITERATURE CLASSIFICATION

METALLOGICAL LITERATURE CLASSIFICATION

METALLURGICAL LITERATURE CLASSIFICATION



PROCEEDINGS AND PROPERTIES INDEX

7

Spectral quantitative analysis of aluminum alloys with the application of objective photometry. II. A. R. Striganov and B. I. Simakovskii. *Zavodskaya Lab.* 10, 616-17(1941).—Rpts. were made to find optimum condi-

tions for the detn. of Cu, Mg, Mn, Fe, Si, Ni, and Ti in Al alloys by spectral analysis. Cu in concns. from 0.1 to 1.0% can be detd. by means of the lines Cu I 3274.0 and Al I 2652.6 A. At concns. of 2.0-5.0%; this pair gives less accurate results, but the pairs Cu 2347.0-Al 2321.6 and Cu 2247.0-Al 2315.1 A. can be used. The pair Cu 2347.0-Al 2321.6 A. can be used for alloys contg. no Ni, because the line Ni 2321.4 A. coincides with the line Al 2321.6. In detns. of Mg best results are obtained with the pairs Mg II 2790.8-Al II 2568.0 and Mg I 2852.1-Al I 2652.6 A., the 2nd pair giving a curve with a greater slope than the first pair. Mn can be detd. by means of the pair Mn II 2833.1-Al II 2650.1 or the pair Mn II 2593.7-Al II 2568.0 A. The pair Mn 2593.7-Al 2568.0 A. is recommended for detns. of hundredths of 1%. The lines Mn 2830.3 and 2540.3 A. can also be used for detns. of Mn, although the Ti lines 2938.7 and 2948.2 A. may interfere. Optimum conditions of the expts. were: electrodes with a spherical end (diam. 5 mm.), spark distance 2.5 mm., and slit 0.04 mm. wide. For concns. of Cu up to 1.0% the accuracy is equal to that of the electrolysis method; at high concns. of 3-5% the accuracy is somewhat lower. W. R. Henn

458 514 METALLURGICAL LITERATURE CLASSIFICATION

ABBREVIATED LIST OF COUNTRIES AND INSTITUTIONS

STRIGANOV, A R

STRIGANOV, A. R.

U. A. Vol. 37, Col. 595-9

"The Influence of Heat-Treating on the Results of Quantitative Spectral Analysis of Aluminum Alloys". Compt. rend. acad. sci. U. R. S. S. 31, 437-40 (1941) (in English).

Specimens of duraluminum variously treated after casting were spectrographically (spark) analyzed for Mg, Mn, Fe and Si and the results compared. The effects of specimens were studied for: (1) the effect of storage; analyses were made immediately after casting, after 1, 2 and 3 months and after homogenization and hardening; (2) the influence of natural aging; analyses made after casting, after homogenization and hardening, after 1 month of indoor aging, after 2 months and after homogenization and hardening; (3) the influence of artificial aging; analyses made on fresh castings, after homogenization and hardening, after 1st annealing and after 2nd annealing; (4) the effect of 2 successive annealings; analyses were made on fresh castings, after homogenization and hardening, after 1st annealing and after 2nd annealing.

(over)

PROCESSES AND PROPERTIES INDEX

11

**SPECTRUM ANALYSIS OF ALUMINIUM ALLOYS. A. R. STRIGANOV AND K. A. SUKHENKO** (IZVEST. AKAD. NAUCH. S.S.S.R., 1945, 9, (6), 593-606), (In Russian)

Reviews methods used for the routine analysis of alloys in many aluminium works, in which approx. 300,000 quantitative determinations per month are being carried out in about 30 factories. For high-speed analysis, spectra taken through a steeped wedge may be estimated by visual interpolation, and tables of the lines used for this are given for Mg, Mn, Cu, Si, Fe, Ti, Co, Sn.

For more precise work, microphotometric comparison with standard samples is preferred. Standard sparking conditions are given for the Feussner spark generator and for a simpler circuit and the methods of casting standard samples are described. Visual estimation with a polarizing spectrometer may also be used in some cases. — E. VAN S.

METALLURGICAL LITERATURE CLASSIFICATION

ASB-31A

GENERAL INDEX

11

1ST AND 2ND CODING PROCESSES AND PROPERTIES INDEX 3RD AND 5TH CODING

BC

1978. Results of investigations of special steels. A. H. Springer, (Int. J. Metall. Ind. U.S.S.R., St. Petersburg, 1968, 8, 64-65) (U.S.S.R. Pat. 1,644,307) In Russian; translated in the U.S. and between 1968-1971. In Russian; translated in the U.S. by the three-standards method. The Fe base 2008 A; is compared with the Cu base Fe-Ni alloy (composition 20 wt. % Fe 2008 A has in the metal matrix, the same amount of Cu as in the Fe base 2008 A). The results of the investigations are given. The effect of the amount of Cu on the mechanical properties of the metal is investigated. The effect of the amount of Cu on the mechanical properties of the metal is investigated. The effect of the amount of Cu on the mechanical properties of the metal is investigated.

COMMON ELEMENTS

COMMON VARIABLES INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

EDOM STIVBIVW	EDOM BONIVU
EDOM STIVBIVW	EDOM BONIVU



CA

7

**Spectral lines for the analysis of aluminum alloys by the photographic method with the application of a microphotometer** A. R. Striganov, *Zh. fizichesk. Lab.* 11, 311, 11(1945), cf. C.A. 39, 323P. The Mg was det'd in Duralumin type alloys by the method of 3 standards with a microphotometer. Best results were obtained with the pair Mg 2790.8 and Al 2816.2 A., but the intensity of the Al line must be weakened to about one fifth. Less accurate results were obtained with the line pairs Mg 2790.8 and Al 2816.2 A., and Mg 2852.1 and Al 2852.5 A. In detns of 0.5-2.5% of Ni in Al alloys better results were obtained with the pair Ni 3414.8 and Al 3082.2 A. than

with the pair Ni 3414.8 and Al 3082.2 A. with 2% of Ni the curve for Ni 3414.8 and Al 3082.2 A. is very steep, hence there are greater errors in the detns. Similar curves are obtained with some other Ni lines situated in the long wave region of the spectrum (Ni 3493.0 A., Ni 3515.1 A., Ni 3524.5 A. with the line Al 3082.2 A.). The line Ni 3414.8 A. can be used to det. small concns. of Ni. The following pairs can be used to det. the various components of Al alloys: Mg 2790.8 and Al 2816.2 A. for Mg (0.01-2.0%), Mn 2833.1 and Al 2816.2 A. for Mn (0.10-1.5%), Fe 2755.7 and Al 2816.2 A. for Fe (0.10-2.0%), Ti 3449.4 and Al 2816.2 A. for Ti (0.05-0.25%), Cr 3449.4 and Al 3082.2 A. for Cr (0.05-0.25%). Three references.

W. R. Hunt

ASB 51A METALLURGICAL LITERATURE CLASSIFICATION

SECTION SYMBOLS

SECTION SYMBOLS

PROCESSES AND PROPERTIES INDEX

7

CA

A spectral method for the rapid analysis of aluminum alloys. A. R. Stigany, *Zavodskaya Lab.* 11, 115-119 (1945), *J. C.* 1:739, 333P. The following pairs of lines were used for detg. various elements in Al alloys: Mg 2779.9 and Al 2052.5 A. for 0.40-2.0% of Mg in the presence of Fe < 1.0%; Mg 2700.8 and Al 2510.2 A. for 0.10-2.0% of Mg; Mg 2832.1 and Al 2052.5 A. for 0.01-0.4% of Al; Mg 2832.1 and Al 3050.1 A. for 0.01-0.40% of Al in the presence of Ni < 0.20%; Mn 2949.2 and Al 3050.1 A. for 0.10-1.50% of Mn in the presence of Ni < 0.20%; Mn 2883.1 and Al 3050.1 A. for 0.40-1.80% of Mn in the presence of Ni < 0.20%; Mn 2672.6 and Al 2709.2 A. for 0.40-1.80% of Mn; Mn 2593.7 and Al 2652.5 A. for 0.01-1.00% of Mn; Fe 2749.2 and Al 2652.5 A. for 0.10-1.80% of Fe; Si 2881.0 and Al 3050.1 A. for 0.10-1.00% of Si in the presence of Ni < 0.20%; Si 2510.1 and Al 2652.5 A. for 0.10-1.00% of Si; Cu 3274.0 and Al 3050.1 A. for 0.01-1.00% of Cu in the presence of Ni < 0.20% (over 2.0% of Cu is detd. polarimetrically); Ni 3414.8 and Al 3006.2 A. for 0.02-0.50% of Ni; Ni 3101.9 and Al 3006.2 A. for 0.70-1.00% of Ni; Ti 3349.4 and Al 3006.2 A. for 0.1-0.25% of Ti; Zn 3345.0 and Al 3006.2 A. for 0.02-0.50% of Zn. The time required for complete analysis for 6-7 elements does not exceed 16 min. W. R. Hunt

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

PROCESSES AND PROPERTIES INDEX

*CA* 7

Spectral analysis of aluminum alloys. A. R. Striganov and K. A. Sukhenko. *Zhurnal Fiz. Khim.* 11, 985 (1945), cf. *C.A.* 40, 1421<sup>2</sup>. - A review of the method of photometric interpolation, the method of 3 standards, and the method of homologous pairs for spectral analysis of Al alloys and a discussion of spectroanalytical problems.  
W. R. Henn

METALLURGICAL LITERATURE CLASSIFICATION

METALLURGICAL LITERATURE CLASSIFICATION												
1	2	3	4	5	6	7	8	9	10	11	12	13

STRIGANOV, V. R.

"Successes of Biological Chemistry," Sovetskaya Kniga (Soviet Books), 128 p.,  
Pravda Publ. House, 1952.

SECRET  
[Faint header text]

SECRET

Subject: [Faint text]  
Reference: [Faint text]

Classification: [Faint text]  
Date: [Faint text]  
Author: [Faint text]

- Approved by:
- Members of Committee on Assassinations:
- W. E. Brockelton,
- G. H. Foyel, H. R. Johnson,
- H. G. Owen, J. R. ...
- V. G. Koritsky,
- S. J. ...
- S. J. ... (Chairman of the Committee)

1/5

Card 2/2

ISSN 171 - 1  
Call No.: P4238

Full Title: [Illegible]

Text Data:

Cover: The authors describe various methods and apparatus used for spectral analysis in laboratories of the USSR and also give the classification, general arrangement, efficient inventors and kind of professional personnel for making of laser lamp. The spectroscopes, spectrographs, and other instruments of optical spectroscopy are described in detail on each level of Soviet state.

The book is a list of laboratories illustrating the use of various kind of equipment used in Soviet optical laboratories, with a table and traces of the distribution classes where this equipment is available.

Purpose: General information for designers and professional personnel of different institutional laboratories.

Application: For all offices and design in the field of optical engineering can be obtained, see p. 11.

No. Russian and Slavic references: 1(1944-51)

Availability: Library of Congress

STRIGANOV, A.R.

TOLANSKIY, S.; STRIGANOV, A.R. [translator]; LANDSBERG, G.S., akademik, redaktor; TELESNII, N.L., redaktor; GERASIMOVA, Ye.S., tekhnicheskiiy redaktor

[High resolution spectroscopy] Spektroskopiia vysokoi razreshaiushchei sily. Per. A.R.Striganova, pod red. i s predisloviiem G.S. Landsberga. Moskva, Izd-vo inostrannoi lit-ry, 1955. 436 p.  
(Spectrum analysis) (MLRA 8:7)

KOROSTYLEVA, L.A.; STRIGANOV, A.R.; YASHIN, N.M.

Hyperfine structure of spectral lines and the nuclear spins of  
U<sup>230</sup> Izv. AN SSSR. Ser. fiz. 19 no.1:31-34 Ja-P '55.

(MIRA 8:9)

(Spectrum analysis) (Spectrometer)



STRIGANOV, A.R.; KOROSTYLEVA, L.A.; DONTSOV, Yu.P.

Isotope shift in plutonium spectra. Izv. AN SSSR. Ser. 19 no.1:  
34-35 Ja-F '55. (MIRA 8:9)  
(Spectrum analysis) (Spectrometer)

STRIB AND THE

~~The relation between the intensity of two isotope lines and the relative concentration of the isotopes. A. R. Striganov. Zvezdika Lab. 21. 1970-82. 1987.~~ CH

A determination was found to be required to establish the relation between the  $I_1/I_2$  and  $C_1/C_2$  in spectrographic isotope analysis because the relation may be considerably altered even in the absence of reabsorption by the mutual superposition of the lines against the background. Black measurements will permit either the determination of an empirical relation or a proper evaluation of the background effects.

This effect may be aggravated for light elements by a Doppler widening of the lines from different isotopes and the difference in the mol. dissen. energy of the difference in b.p. of different isotopes. A correct evaluation of the  $I_1/I_2$  value must always be made. Some other precautions are mentioned for obtaining accurate results. W. M. S.

2/97-RML

①

RML

Striganov, A.R.

USSR ! 62

Hyperfine structure of spectral lines and nuclear spins of uranium-233 and plutonium-239. L. A. Korostyleva, A. R. Striganov, and N. M. Yashin. *Zhur. Ekspl. i Teoret. Fiz.* 78, 471-9 (1955).—The spectra were excited in a discharge tube with a hollow Al cathode. The tube was filled with circulating inert gas (Ar, Kr, He); preps. were made of  $U_3O_8$  and  $PuO_2$ . These are not excited, unless they are reduced to metal by at. H in the discharge (produced by applying a current of 0.3 amp. to  $H_2$  at 2 mm. pressure for 1-5 hrs.). The measurements were made at 2 mm. A pressure, 0.2 amp. current. The plates were photographed together with Fabry-Perot standard plates for 30 min. Noticeable hyperfine structure was observed on 12 lines of  $U^{233}$  and a 6 component structure was completely measured on lines 6826.93, 5970.34, 5915.40, 4515.23, and 4171.59 Å. As the hyperfine structure is composed of 6 lines, the nuclear spin of  $U^{233} = 5/2$  and  $I < J$ . From the ratios of intervals between the components it is concluded that the  $U^{233}$  nucleus has a quadrupole moment and that its magnetic moment is pos. and 1.5 times larger than that of  $U^{235}$ . Seventy lines of  $Pu^{239}$  are split into 2 components. This can be explained by assuming the nuclear moment equal to 0.5. The width of the superfine structure is tabulated for all 70 lines; it varies from 0.04 to 0.2  $cm^{-1}$ . The data lead to the values of quantum numbers  $J = 1, F_1 = 1/2, F_2 = 3/2$ . Isotopic displacement in the plutonium spectrum. A. R. Striganov, L. A. Korostyleva, and Yu. P. Dontsov. *Ibid.* 480-84.—The authors introduced a mixt. of  $Pu^{239}$  and  $Pu^{240}$  oxides into their discharge tube. An isotopic displacement of 0.08-0.23  $cm^{-1}$  was observed on 19 lines 13 of which showed purely isotopic displacement and 6 isotopic displacement and superfine structure. The lines can be classed into 4 groups corre-

3

*L. I. Kuznetsov*  
sponding to transitions: (1)  $5f^{6d7p}-5f^{6d}7s$  (Pu I) and  $5f^{6d7p}-5f^{6d}7s$  (Pu II); (2)  $5f^{6d7p}-5f^{6d}7s^2$  (Pu I) and  $5f^{6d7p}-5f^{6d}7s^2$  (Pu II); (3)  $5f^{6d7p}-5f^{6d}7s^2$  (Pu I) or  $5f^{6d7p}-5f^{6d}7s^2$  (Pu II); (4) are lines not showing isotopic transitions and corresponding to special configurations of  $f$ ,  $d$ ,  $p$  electrons. S. Pakswar

STRIGANOV, A. R.

USSR

535.338.333 62  
63  
6900. Isotope shift in the spectrum of plutonium.  
A. R. STRIGANOV, L. A. KOROSTYLEVA AND YU. P.  
DONTSOV. Zh. eksper. teor. Fiz., 28, No. 4, 480-4  
(1955) In Russian.  
A mixture of Pu<sup>239</sup> and Pu<sup>240</sup> is investigated with high  
resolving power between 4100-6500 Å. Nineteen lines  
exhibit an isotope shift; some of these, hyperfine  
structure. Schemes of transitions are proposed.  
O. E. BROWN

STRIGANOV, A. R.

USSR/Nuclear Physics - Uranium's spectrum

FD-2901

Card 1/1 Pub. 146 - 1/19

Author : Striganov, A. R.; Korostyleva, L. A.

Title : Investigation of the isotopic effect in the spectrum of uranium

Periodical : Zhur. eksp. i teor. fiz., 29, October 1955, 393-405

Abstract : The authors measure the isotopic displacement in the spectrum of uranium between the components of the isotopes U-238 and U-235 for 346 lines. They use the obtained regularities in the isotopic displacement for the extension of the classification of the spectrum of uranium and for the establishment of the isotopic displacement in certain terms of U I and U II. Proceeding from the displacement of the terms  $5f47s^6 I_{9/2}$  and  $5f37s^2 I_{9/2}$  the authors find that the lowest electron configuration for U II is  $5f47s$ . Nine references, all Western.

Institution :

Submitted : May 10, 1955

STRIGANOV, A. R.

USSR/Nuclear Physics - Uranium's spectrum

"APPROVED FOR RELEASE: 08/26/2000 CIA-RDP86-00513R001653520016-2"

Card 1/2 Pub. 118 - 3/8

Authors : Striganov, A. R., and Dontsov, V. A.

Title : Isotopic effect on atomic spectra

Periodical : Usp. fiz. nauk 55/3, 315-390, Mar 1955

Abstract : The isotopic effect on the atomic spectra (optical) is discussed. The discussion is conducted separately for the light, medium and heavy elements. The isotopic effect was studied completely for 33 out of 57 stable elements, with the number of isotopes larger than 2, and 4 out of 17 radioactive elements. Seven elements of the first group and thirteen elements of the second group were not studied at all. Seventeen elements of the first

Institution : .....

Submitted : .....

Card 2/2 Pub. 118 - 3/8

Periodical : Usp. fiz. nauk 55/3, 315-390, Mar 1955

Abstract : group were studied only partially. In the case of heavy elements, the so-called volume effect, a new concept, was introduced for the better interpretation of the isotopic effect on spectra of elements. The volume effect is based on the quantum mechanical theory. The importance of the isotopic effect is the fact that it helps in understanding the structure of atomic nuclei. However, the knowledge of an isotopic effect alone, is sometime not enough for the complete understanding of atomic nuclei and an appreciation of quantum mechanical analysis is necessary. Mechanical, magnetic and quadrupole moments together with spins of nuclear particles should also be considered. Two-hundred and fourteen references (1918-1954). Tables; diagrams; graphs.

STRIGANOV, A. R.

2  
8

Intensity of oscillations and widening of spectral bands in noble gases. V. S. Bursov, M. N. Orlov, and A. R. Striganov (A. A. Zhdanov State Univ., Leningrad). Dokl. Akad. Nauk S.S.S.R. 101, 403-5 (1955). — Photographs of the A spectrum were obtained at 0.1–155 mm. Hg with app. consisting of light source (gaseous high-frequency discharge in a capillary glass tube), condenser, rotating sector (1500 rotation/min.), interferometer, spectrograph, and microphotometer. The width of the bands increased with the increase in pressure and was 0.397, 0.488, 0.612  $\text{cm}^{-1}$  for 4510.7 Å, and 0.412, 0.471, 0.594  $\text{cm}^{-1}$  for 4333.5 Å, at 0.1, 40.7, and 107 mm. Hg, resp. These bands are related to the  $1^1P_1 - 3^1P_1$  and  $1^1P_1 - 3^3P_2$  transition levels. The 4300.1, 4272.1, 4200.6, 4181.8, and 4158.0 Å. bands also exhibited an increase in width, though to a lesser degree. Calcns. showed that the resonance levels, i.e., the levels from which dipole transitions to the ground state occur, are subjected to the greatest increase in the band width. The width of resonance levels (in wave numbers) is expressed as  $3f^2N/\pi mc\omega_0$ , where  $e$  and  $m$  are the charge and mass of electron,  $\omega_0$  is cyclic frequency,  $f$  is intensity of oscillation of the resonance band,  $N$  is number of atoms/unit vol., and  $c$  is velocity of light.

A. P. Korolov

*Strig* (handwritten signature)



*Strigany and P.*

Atomic spectrum of plutonium. V. P. Strigany and  
 A. A. Kroslyeva. *Optika i Spektroskopiya* 1, 95-94  
 (1966). In the spectrum of Pu<sup>III</sup> there are a total of 908  
 lines were measured in the region from 2500 to 7700 Å. The  
 position of each line was measured with an accuracy of  
 ±0.0015 mm. The av. exptl. error was ±0.05-0.1. The  
 method is described. A. P. Kotloby

Atomic spectrum of americium. E. N. Oranov, A. I.  
 Strigany, and Yu. P. Sobolev. *Optika i Spektroskopiya* 1,  
 96-11 (1966). The spectrum of Am was investigated in  
 the region from 2500 to 7700 Å. A total of 1044 lines have  
 been measured of which 817 are reported for the 1st time.  
 The position of each line was measured with an accuracy of  
 ±0.0015 mm. The av. exptl. error was ±0.05-0.1. The  
 method is described. A. P. Kotloby

ST. R. 11/11/11

← Isotope effect in the uranium spectrum. A. R. Strigany and L. A. Korostyleva. *Soviet Phys., JETP* 2, 277-89 (1956) (Engl. translation).—See C.A. 50, 3077d. 2  
H. M. R.

STRIGANOV, A-R.

600  
-PMK

USPERNI FIZICHESKIE NAUK  
Progress in Physics  
Vol. 58, No. 3, March, 1956

Isotope spectral analysis

HT

The aim of the paper is to clarify the fundamentals of the method of spectral analysis for determining the isotope composition according to the spectra and to give a brief review of work published on isotope spectral analysis. During the last four years considerable advances were made in the development and application of isotope spectral analysis. On the examples of hydrogen, heavy water, lithium and uranium the effectiveness of this method for practical applications is demonstrated. It proved possible to determine quantitatively the isotope composition of the above elements for concentrations between 1 and 90% with a higher accuracy (an error below 1%) than that of ordinary spectral analysis of admixtures in elements and alloys. A very important advantage of the spectral method of determination of the isotope composition is the independence of the results of the analysis on the presence of any quantities of extraneous admixtures in the specimen. Therefore, in contrast to other methods, the spectral analysis does not require the purification of the specimen. The results of the analysis are given in the form of a table.

1/2

Isotope spectral analysis. 1-~~RM~~

confirm the theoretical relations derived by the author of this paper relative to the intensity of the isotope lines and the relative concentrations of isotopes for light and heavy elements; it also confirms the character of the change of this dependence in presence of self-absorption, background and mutual super-position of lines. This indicates that in the development of spectral-analytical methods of isotope analysis calibration by the method of reference standards for determining the real dependence of the relative intensity of the isotope lines from the relative concentration of isotopes is very important. 2/2

D By A. R. Stroganov. ~~RM~~ RM RM

STRIKANOVA, A. P.

H. R. R. R.

How  
Side

Mercury one isotope source of light and determination of cross section of thermal neutron capture of  $^{199}\text{Au}$ . *Sov. Phys. Dokl.*, No. 1, 21-7 (1957).  $^{199}\text{Au}$  was obtained from  $\beta$ -decay of  $\text{Au}^{199}$  by the reactions  $\text{Au}^{199} + \pi \rightarrow \text{Au}^{199} + \text{Hg}^{201} + \beta^-$ . A purified Au foil 0.2 mm. thick was heated for 2 hrs. at  $1000^\circ$  under vacuum. Then the foil was irradiated for 19 hrs. in a U reactor with a flux of  $2 \times 10^{12}$  thermal neutrons/sq. cm. sec. Under these conditions the concn. of  $\text{Hg}^{201}$  produced by  $\text{Au}^{199} + n \rightarrow \text{Au}^{199} + \text{Hg}^{201} + \beta^-$  was  $< 1\%$ . One drawback of the  $\text{Hg}^{201}$ -contg. light source is the adsorption of Hg on the walls during the discharge, resulting in a decrease in the intensity of the spectrum. This defect can be partially overcome by increasing the pressure of A in the discharge tube and increase in the excitation frequency. Annealing of the tube also aids in clearing the walls of the deposit. The spectrum of  $\text{Hg}^{201}$  revealed an inversion of 5469.74 A. and 4940.56 A. lines and a partial self-absorption in the instance of the 4358.55 A. line. The 5769.65, 5769.59, and 4977.81 A. bands showed very little self-absorption, if at all. Based on the analysis of the spectrum, the lines 4358.55 A. and 4977.81 A. were chosen as the best analytical lines. From the ratio of the intensities of  $\text{Hg}^{201}$  and  $\text{Hg}^{199}$  and from the abs. neutron flux, the cross section for capture of thermal neutrons by  $\text{Au}^{199}$  was  $12.3 \text{ barns}$ . 12 references.

A. P. Kutlaby

R. M. R.

AUTHOR STRIGANOV A.R., GAVRILOV F.F., YEFREMOV S.P. PA - 2721  
TITLE A Method for the Qualitative Spectral Analysis of Isotope  
Compositions of Enriched Uranium. (Metod spetral'nogo kolic  
hestvennogo analiza izotopnogo sootnosa obogashchennogo urana.-  
Russian.)  
PERIODICAL Atomnaia Energiia 1957, Vol 2, Nr 4, pp 337 - 344 (USSR).  
Received: 5/1957 Reviewed: 6/1957  
ABSTRACT The authors developed a photographic method for the spectral  
analysis of the isotope composition of enriched uranium at  
concentrations of from 2 to 90 %  $U^{235}$  and higher.  
The possibilities of this method and its advantage compared  
with other methods are shown here by the example of uranium.  
Besides, the present work carries out an experimental examination  
of the calibration curves used for the analysis of the isotopes  
of heavy elements.  
Experiment: The glass three-prism spectrograph ISP-51 with the  
autocollimation chamber UF-85 (F = 1300 mm) served as spectro-  
scope. An alternating current arc served as a light source.  
Liquid samples in form of an aqueous solution of nitric acid  
uranium salt was best suited. Solutions of the salts of natural  
as well as of enriched uranium were used for the composition  
of the two-isotope standards  $U^{235}$  +  $U^{238}$ .

CARD 1/2

PA - 2721

A Method for the Qualitative Spectral Analysis of Isotope Compositions of Enriched Uranium.

Selection of the spectral line: For the isotope analysis of uranium the line  $4244,374 \text{ \AA}$  of the uranium is best suited because it belongs to the group of the most sensitive lines and has a high isotope shift. Besides, this line is located in a domain that is free from cyanogen bands. A photograph shows the well separated components of this line corresponding to the isotopes

$U^{235}$  and  $U^{238}$ . The scheme of transitions and the isotope structure of this line are shown in form of a diagram.

A formula is given and discussed for the calibration curves. Microphotographs of the spectra of three uranium samples enriched with 2,82, 9,52 and 50% are added. The results found here determine sufficiently well the general deliberations concerning the course of the calibration curves in the case of the existence of a background and the reciprocal location of the isotope lines.

In conclusion, carrying out of the analysis and the accuracy of the method are discussed. This method is at least as accurate and essentially quicker than the other methods. Total analysis of a sample does not take longer than 1 hour.

(8 illustrations and 2 tables.)

CARD 2/2

ASSOCIATION: not given.  
PRESENTED BY: -  
SUBMITTED: 20.7. 1956.  
AVAILABLE: Library of Congress.

89-9-5/26

AUTHOR  
TITLEOGANOV, M.N., STRIGANOV, A.P.  
Quantitative spectroscopic Analysis of a Gaseous Mixture of Hydrogen,  
Deuterium and TritiumPERIODICAL  
ABSTRACT(Spektral'nyy kolichestvennyy analiz izotopnogo sostava gazoobraznykh smesey vodoroda. deyteriya i tritiya. Russian)  
Atomnaya Energiya, 1957, Vol 3, Nr 8, pp 112 - 120 (U.S.S.R.)A gaseous mixture of H<sub>2</sub> and D<sub>2</sub>, and H<sub>2</sub> and T<sub>2</sub> respectively can be dissolved into its components by means of a 3 glass prism spectrograph (I.S.P. - 51° dispersion at 6500 Å 9,5 Å/mm, f of the condenser 1200 mm, light source: quartz capillary as gas discharge tube, discharge taking place by high frequency), this can be done quantitatively on the basis of H<sub>α</sub>, D<sub>α</sub>, T<sub>α</sub>-lines. For a number of samples the gauging curves are given: H<sub>2</sub>-content of 0,7 - 3,5 %, 3,5 - 25 %, 25 - 75 %, 75 - 97 %.It was established experimentally that the intensity ratio  $I_H/I_D$  depends upon the gas pressure in the discharge tube. With a concentration of 10,2 % the ratio  $I_H/I_D$  remains constant in the case of any modification of gas pressure. In the case of a higher or lower concentration it grows with increasing gas pressure. Also for a sample that contains all three gases H<sub>2</sub>, D<sub>2</sub> and T<sub>2</sub>, quantitative separation is possible. (With 2 tables, 8 illustrations and 4 Slavic references).

Card 1/2

APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653520016-2"

Quantitative spectroscopic Analysis of a Gaseous Mixture of Hydrogen,  
Deuterium and TritiumASSOCIATION  
PRESENTED BY  
SUBMITTED  
AVAILABLENot given  
20.7.1956  
Library of Congress

Card 2/2



STRIGANDY, A. R.

tw

1/2

4266

A METHOD FOR THE SPECTRAL QUANTITATIVE ANALYSIS OF THE ISOTOPIC COMPOSITION OF HEAVY WATER

Yu. P. Doudaev and A. R. Strigandov. Zhur. Analit. Khim. 12, 6-9(1957) Jan.-Feb. (in Russian)

Sci  
Pub

A spectral method and apparatus for quantitative analysis of small amounts of heavy water are described. The calibration graph has been drawn up for the interval of concentration 2 to 80% D<sub>2</sub>O in H<sub>2</sub>O. The relative error changes in dependence to the concentration from ± 4% to ± 0.6%. (tr-auth)

RMT EJP

STRIGANOV, A.R.

AUTHOR: Mandel'shtam, S.L., Doctor of Physical-Mathematical Sciences, 30-8-9/37  
Striganov, A.R., Doctor of Physical-Mathematical Sciences

TITLE: A Symposium on Spectrography at Chicago (Simposium po spektroskopii v Chikago)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1957, Vol. 27, Nr 8, pp.60-62 (USSR)

ABSTRACT: The authors of this report attended the above mentioned symposium (29.April - 1.May). More than half of the reports was devoted to the various problems concerning the practical application of the emission spectral analysis; the corresponding devices and exhibits were demonstrated. The works on the determination of P, S, C in steel were of special interest. In his report N. Launani (Sweden) pointed out the possibility to determine P in steels by means of a quantometer. E. Lushera (Switzerland) dealt with the problem of the immediate registering in the ultraviolet of the vacuum. Special interest was caused by the reports on the application of the method of transmission in spectroanalysis which was applied for the first

Card 1/2

LOMONOSOVA, Liya Simonovna; FAL'KOVA, Ol'ga Borisovna; STRIGANOVA, A.P.,  
doktor fiz.-mat. nauk, red.; BERLIN, Ye.N., red. izd-va; KARAS'V,  
A.I., tekhn. red.

[Spectrum analysis] Spektral'nyi analiz. Pod red. A.R. Striganova.  
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi  
metallurgii, 1958. 420 p. (MIRA 11:9)  
(Spectrum analysis)

DONTSOV, Yu.P.; STRIGANOV, A.P.

Monoisotopic mercury source of light and determination of the cross section for the capture of thermal neutrons by Au<sup>198</sup>.  
Fiz.sbor. no.4:11-12 '58. (MIRA 12:5)

1. Laboratoriya izmeritel'nykh priborov AN SSSR.  
(Gold--Isotopes) (Mercury--Isotopes) (Neutrons--Capture)

BOLOTIN, V.F.; ZAVOYSKIY, Ye.K.; OGANOV, M.N.; SMOLKIN, G.Ye.;  
STRIGANOV, A.R.

[Use of electron-optical light amplifiers for spectroscopic studies of a weakly radiating plasma] O primeneni elektronno-opticheskikh usilitelei sveta dlia spektroskopicheskikh issledovani slabosvetiashcheisia plazmy. Moskva, In-t atomnoi energii, 1960. 11 p.  
(MIRA 17:2)

AHMATOV, A.P.; BLINOV, P.I.; BOLOTIN, V.F.; BORODIN, A.V.;  
GAVRIN, P.P.; ZAVOYSKIY, Ye.K.; KOVAN, I.A.; OGANOV, M.N.;  
PATRUSHEV, B.I.; PISKAREV, Ye.V.; RUSANOV, V.D.; SOLKIN,  
G.Ye.; STRIGANOV, A.R.; FRANK-KAMENETSKIY, D.A.; CHEREMNYKH,  
P.A.; CHIKIN, R.V.

[Magnetoacoustic resonance in a plasma] Magnito-zvukovoi  
rezonans v plazme. Moskva, In-t atomnoi energii, 1960. 23 p.  
(MIRA 17:2)

21.2100, 24.5700

7212  
SOV 69-8-1-6/29

AUTHORS: Nastyakina, A. I., Strizhanov, A. R., Afanas'yev, I. I.,  
Mikhaylov, L. N., Oganov, M. N.

TITLE: Mass-Spectrometric and Spectroscopic Studies of an  
Ion Source Hydrogen Discharge. Letter to the Editor

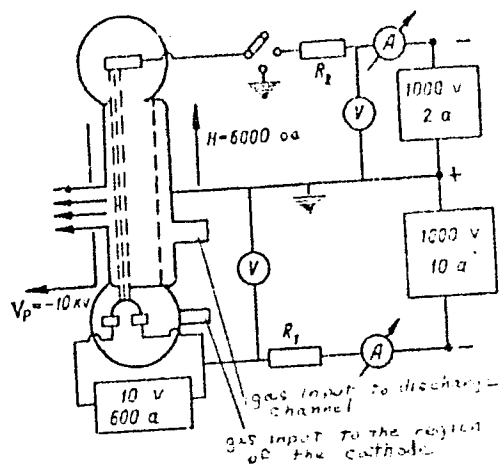
PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 1, pp 44-46 (USSR)

ABSTRACT: During preliminary mass-spectrometric investigations  
of the slit source of the 1.5 m cyclotron of the AS  
SSSR, the authors found that a 20 x 2 mm surface  
yields up to 60 ma of ion current, containing 95% of  
protons or 80% of molecular hydrogen. In the present  
paper they describe simultaneous measurements of the  
 $H^+/H_2^+$  and  $H/H_2$  ratios in an ion source, utilizing a  
triple-prism Zeiss spectrograph with a camera objec-  
tive of 840 mm focal length. Inverse line dispersion  
was 38 A/mm in the 6,500 A region. The ion source  
is given in Fig. 1. Atomic hydrogen was identified  
using the first line of the Balmer series (6,562.79 A);  
hydrogen molecules light intensity was taken as

Card 1/5

Mass-Spectrometric and Spectroscopic  
Studies of an Ion Source Hydrogen  
Discharge. Letter to the Editor

77212  
807/89-8-1-6/29



Card 2/5

Fig. 1. Diagram of the Ion Source.



Mass-Spectrometric and Spectroscopic  
Studies of an Ion Source Hydrogen  
Discharge. Letter to the Editor

77212  
SOV/89-3-1-6/29

proportional to average intensity of lines 6,031.90 A and 6,018.29 A. Authors investigated the ion and neutral particle ratios as functions of the gas flow, discharge current, and discharge potential. Figure 3 shows the variations of the absolute values of ion currents and spectral line intensities as functions of the gas flow. Spectral line intensities were proportional to the neutral particle concentration since, according to Ornstein and Linderman, the excitation cross sections are fairly constant in the region of electron energies used in this source. Points on the graphs correspond to a gas flow to the cathode region, and crosses are due to a gas flow straight to the discharge channel. The similar shape of the dissociation and ionization curves indicate that the ion production proceeds in two steps: first, a dissociation of  $H_2$ , and then ionization of hydrogen. The better yield in the case of direct flow into the discharge region may be due to the larger number of molecules coming into contact with electrons, or, as pointed out by Kruthof

Card 3/3

Mass-Spectrometric and Spectroscopic  
Studies of an Ion Source Hydrogen  
Discharge. Letter to the Editor

77212  
SOV/894-1-6/29

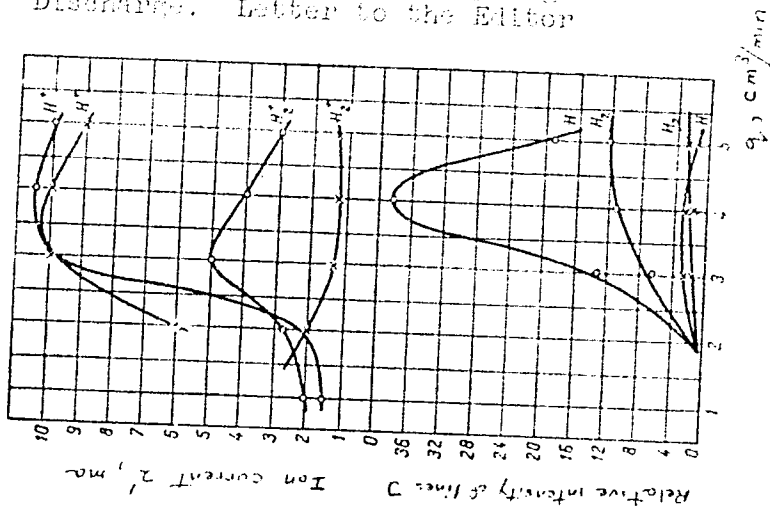


Fig. 3. Variation of absolute values of ion currents and spectral line intensities as functions of gas flow at discharge  $I_d = 3a$  and  $U_d = 160$  v.

Card 4/5

Mass-Spectrometric and Spectroscopic  
Studies of an Ion Source Hydrogen  
Discharge. Letter to the Editor

77212  
SOV/89-8-1-6/29

and Ornstein, due to interaction with faster electrons.  
There are 5 figures; and 5 references, 2 Soviet, 1  
German, 1 Dutch, 1 U.S. The U.S. reference is: R.  
Livingston, R. Jones, Rev. Scient. Instrum., 25, 552  
(1954).

SUBMITTED: February 27, 1959

Card 5/5

90540

S/051/60/008/06/001/024  
R201/R691

I.2500

AUTHORS: Dontsov, Yu.P., Morozov, V.A. and Striganov, A.R.

TITLE: Isotopic Shift in the Spectrum of Neodymium

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 6, pp 741-745 (USSR)

ABSTRACT: The isotopic shift in the atomic spectrum of neodymium was investigated by several workers (Refs 1-5); Table 1 lists the results obtained by Nöldeke and Steudel (Refs 3, 4). As in samarium, an anomalous shift was observed between the Nd148 and Nd150 components (it occurs on addition of the forty-fifth pair of neutrons to the nucleus). The present paper reports a new investigation of the isotopic shift of neodymium. In contrast to previous work the samples used consisted of separated isotopes: Nd142, Nd144, Nd146, Nd148, Nd150 (Table 2). A Fabry--Perot interferometer and a hollow-cathode discharge tube were employed. The following isotopic shifts were measured for 16 lines lying between 4689 and 6486 Å:  $\Delta\nu(142-144)$ ,  $\Delta\nu(144-146)$ ,  $\Delta\nu(146-148)$ ,  $\Delta\nu(148-150)$  (Table 3). It was found that the relative shifts of the Nd I and Nd II lines were practically identical and that the relative anomalous

✓

Card 1/2

80540

S/051/60/008/06/001,024  
E201/E691

Isotopic Shift in the Spectrum of Neodymium

shift was practically independent of wavelength (Table 4). The mean relative shifts were: 1.00 (142-144), 0.87 (144-146), 1.04 (146-148), 1.42 (148-150) (cf. Table 4 and a figure on p 744). The inequality of the relative shifts of neodymium isotopes whose nuclei do not possess static deformation, may be due to non-uniform variations of the amplitudes of zero vibrations of the nuclear quadrupole moment. There are 1 figure, 4 tables and 9 references, of which 3 are Soviet, 2 English, 2 Dutch and 2 German.

SUBMITTED: November 5, 1959

Card 2/2



KIREYEV, Petr Semenovich; ZAGORYANSKAYA, Yelizaveta Vasil'yevna;  
STRIGANOV, A.R., red.; PERKOVSKAYA, T.Ye., red. izd-va;  
PAVLOVA, V.A., tekhn. red.

[Molecular spectrum analysis] Molekuliarnyi spektral'nyi analiz.  
Moskva, Gos. izd-vo "Vysshaya shkola," 1961. 142 p. (MIRA 15:1)  
(Spectrum, Molecular)

BAZHULIN, P.A.; MANDEL'SHTAM, S.L.; STRIGANOV, A.R.

Conference on optics and spectroscopy. Vest. AN SSSR 31 no.2:91-  
92 F '61. (MIRA 14:2)

(Optics—Congresses)



KALININ, Sergey Ksenofontovich; FAYN, Emil' Yefraimovich; STRIGANOV,  
A.R., doktor fiziko-matem. nauk, prof., otv. red.; RZHONDROVSKAYA,  
L.S.; red.; ALFEROVA, P.F., tekhn. red.

[Spectrum analysis of raw minerals] Spektral'nyi analiz mineral'-  
nogo syr'ia. Alma-Ata, Izd-vo Akad. nauk Kazakhskoi SSR, 1962.  
238 p. (MIRA 15:7)  
(Minerals--Analysis) (Spectrum analysis)

BABUSHKIN, Aleksandr Afanas'yevich, dots.; BAZHULIN, Pavel Alekseyevich, prof.; KOROLEV, Fedor Andreyevich, prof.; LEVSHIN, Leonid Vadimovich, prof.; PROKOF'YEV, Vladimir Konstantinovich, prof.; STRIGANOV, Arkadiy Romanovich, doktor fiziko-matem. nauk; GOL'DENBERG, G.S., red.; GEORGIYEVA, G.I., tekhn. red.

[Spectrum analysis methods]Metody spektral'nogo analiza. [By] A.A.Babushkin i dr. Pod red. V.L.Levshina. Moskva, Izd-vo Mosk. univ., 1962. 508 p. (MIRA 16:2)  
(Spectrum analysis)

S/051/62/012/002/003/020  
E032/E514

AUTHORS: Striganov, A.R., Katulin, V.A. and Yeliseyev, V.V.

TITLE: Properties of isotopic shift in the spectrum of samarium

PERIODICAL: Optika i spektroskopiya, v.12, no.2, 1962, 171-177

TEXT: The authors report new experimental results on the isotopic shift in the spectrum of samarium. In distinction to other workers they have used separated isotopes. A hollow cathode discharge tube was employed as the source of light and the working gas was argon at a pressure of 0.5 mm Hg. The high resolution instrument was a Fabry-Perot interferometer with multi-layer dielectric mirrors (reflection coefficient = 90%). The samarium specimens (even-even isotopes) were taken in the form of  $\text{Sm}_2\text{O}_3$ . Three isotope samples were prepared from them by mixing. The samples were then converted into  $\text{SmCl}_3$  and dissolved in distilled water. The water solution was introduced into the hollow aluminium cathode and was evaporated therein. The isotopic structure was examined with the ИЗА-2 (IZA-2) comparator in 8-12 orders. In each case three spectrograms were obtained  
Card 1/2

Properties of isotopic shift ...

S/051/62/012/002/003/020  
E032/E514

with different separations between interferometer plates. A numerical table is given summarizing the data for 59 lines of SmI. For 56 of these the full isotopic structure is now reported for the first time. 31 of the lines have a negative shift and the remainder a positive one. It is shown that effects associated with changes in the deformation parameter and the amplitude of nuclear surface vibrations are responsible for the observed departure from the equidistant disposition of the components of the even-even samarium isotopes. It is also reported that lines with negative and positive shifts are shifted in somewhat different ways (lines with positive shift have shifts which are on the average greater than those of the negative shift lines). This is ascribed to the dependence of the relative isotopic shift on the properties of the atomic electrons. There are 2 figures and 7 tables.

SUBMITTED: March 1, 1961

Card 2/2

STRIGANOV, A.R.; GOLOVIN, A.F.; GERASIMOVA, M.P.

Isotopic effect in the spectrum of dysprosium. Opt. i spektr. 14  
no.1:7-11 Ja '63. (MIRA 16:5)

(Dysprosium—Spectra)

L 17870-63 EWT(1)/EWG(k)/BDS/EEC(b)-2/ES(w)-2 AFFTC/ASD/ESD-3/AFWL/ 85  
IJP(C)/SSD Pz-l/Pi-l/Po-l/Pab-l AT S/0048/63/027/007/0986/0990 84  
ACCESSION NR: AP3003703

AUTHOR: Bolotin, V.F.; Zavoyskiy, Ye.K.; Oganov, M.N.; Smolkin, G.Ye.; Striganov, A.R.

TITLE: Use of image intensifier tubes for spectrometric investigation of weakly  
luminous plasmas /Report of the Fourteenth Conference on Atomic and Molecular  
Spectroscopy held in Gor'kiy from 5 to 12 July 1961/

SOURCE: AN SSSR, Izv.Seriya fizicheskaya, v.27, no.7, 1963, 936-990

TOPIC TAGS: image intensifier , plasma spectroscopy, photographic spectroscopy

ABSTRACT: The present paper is a general discussion, based on the literature and some preliminary and tentative experiments, of the feasibility of using electron-optical image intensifiers for spectroscopic purposes. The results of the authors' preliminary experiments, involving pulse discharges in hydrogen and other gases, show that lines too weak to be recorded by the conventional photographic procedure can be detected with the aid of an image intensifier. Comparison with line widths determined in other ways indicates that the image intensifier technique does not introduce significant line broadening. It is noted that use of high amplification factors involves special problems as regards processing of the photographic nega-

Card 1/2

L 17870-63  
ACCESSION NR: AP3003708

tives and subsequent microphotometry. / Abstracter's note: A block diagram of the set-up is given, but the paper does not describe the intensifier tube or give any quantitative details. / Orig.art.has: 3 figures.

ASSOCIATION: Institut atomnoy energii im I.V.Kurchatova Akademii nauk SSSR (Institute of Atomic Energy, Academy of Sciences, SSSR)

SUBMITTED: OO

DATE ACQ: 02Aug63

ENCL: OO

SUB CODE: SD, PH

NO REF SOV: 009

OTHER: 000

Card 2/2

ACCESSION NR: AP4039700

S/0051/64/016/006/0936/0940

AUTHORS: Striganov, A. R.; Kulazhenkova, N. A.

TITLE: The isotopic shift in the spectrum of the singly ionized samarium atom

SOURCE: Optika i spektroskopiya, v. 16, no. 6, 1964, 936-940

TOPIC TAGS: samarium, atomic spectrum, isotopic shift, electron configuration, level transition, ionization phenomena

ABSTRACT: On the basis of earlier results by one of the authors (A. R. Striganov, V. A. Katulin, V. V. Yeliseyev, Opt. i spektr., v. 12, 171, 1962), which disclosed new interesting features in the isotopic shift of SmI, a more detailed measurement was made, with the aid of separated isotopes, of the isotopic shift between the components of even-even samarium isotopes on eight lines of SmII. The apparatus and the enriched samarium isotopes were the same as in the

Card 1/5



ACCESSION NR: AP4039700

earlier investigation. A hollow-cathode discharge tube was used as the light source. The relative isotopic shift was shown to be different on lines with positive and negative displacements. It was established that the isotopic shift in the levels of the electron configuration  $4f^5 5d 6s$  is double that for the  $4f^6 6s$  levels, owing to peculiarities in the screening of the 6s-electrons. The electron configurations of 28 upper levels were obtained from the isotopic shift data. "The authors are grateful to student D. A. Volkov for participating in the measurements of several spectrograms." Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: None

SUBMITTED: 04Apr63

DATE ACQ: 24Jun64

ENCL: 03

SUB CODE: NP

NR REF SOV: 003

OTHER: 007

Card 2/5

ACCESSION NR: AP4039700

ENCLOSURE: 01

1, $\lambda$	1 Переход	2 Энергия верхнего уровня, см <sup>-1</sup>	3 Изотопическое смешение, 10 <sup>-2</sup> см <sup>-1</sup>			
			$\Delta\nu$ (144-148)	$\Delta\nu$ (148-150)	$\Delta\nu$ (160-162)	$\Delta\nu$ (162-164)
	Отрицательные сдвиги 4					
4424.34	$4f^6sa^0F_{11/2} - 4f^6p56^0_{11/2}$	26506	81.4	52.2	65.3	33.8
4434.32	$4f^6sa^0F_{11/2} - 4f^6p43^0_{11/2}$	25508	79.2	47.5	65.2	32.0
4519.63	$4f^6sa^0F_{11/2} - 4f^6p56^0_{11/2}$	26506	96.7	55.0	77.2	40.6
	Положительные сдвиги 5					
4403.36	$4f^6sa^0F_{11/2} - 4f^6d6s20^0_{11/2}$	24222	78.7	50.2	75.7	28.4
4499.48	$4f^6sa^0F_{11/2} - 4f^6d6s20^0_{11/2}$	24222	63.7	42.3	63.8	26.1
4505.05	$4f^6sa^0F_{11/2} - 4f^6d6s10^0_{11/2}$	24194	104.8	65.9	95.8	45.4
4537.05	$4f^6sa^0F_{11/2} - 4f^6d6s46^0_{11/2}$	24040	83.1	57.3	84.3	36.5
6569.31	$4f^6da^0H_{11/2} - 4f^6d6s75^0_{11/2}$	27263	186.0	114.5	162.8	84.7

Card 3/5

ACCESSION NR: AP4039700

ENCLOSURE: 02

Isotopic shifts for  
8 lines of SmII

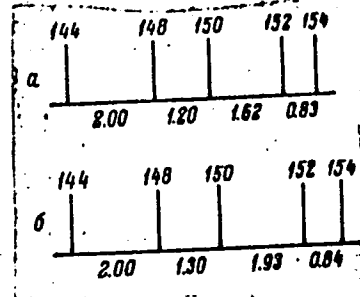
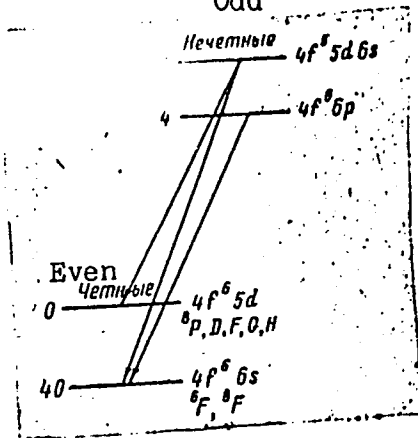
- 1 - Transition
- 2 - upper level energy,  $\text{cm}^{-1}$
- 3 - isotopic shift
- 4 + positive shifts
- 5 - negative shifts

Card 4/5

ENCLOSURE: 03

ACCESSION NR: AP4039700

Odd



Relative isotopic shift.  
 a - lines with negative shift  
 b - lines with positive shift

Level scheme of Sm<sup>+</sup> and isotopic level shift

Card 5/5

L 6730-65 EWT(d)/FSS-2/EWT(l)/EWT(m)/EEG-h/EWP(j)/EEC(t)/EEG(b)-2/EWA(h) Pc-h/  
Pn-h/Pp-h/Pac-h SSD/AFWL/BSA/AEDC(b)/RAEM(a)/AFGC(b)/RAEM(i)/ASD(d)/ASD(a)-5/  
AFETR/ESD(ga)/ESD(t)/RAEM(t)/ESD(c) RM/JKT(CZ) S/0020/64/157/006/1332/1334  
ACCESSION NR: AP4044876

AUTHORS: Balakhonov, V. Ya.; Zhivotov, V. K.; Striganov, A. R. 29

TITLE: Diffraction losses and resonance type oscillations in open resonators with cylindrical mirrors.

SOURCE: AN SSSR. Doklady\*, v. 157, no. 6, 1964, 1332-1334

TOPIC TAGS: quantum generator, resonator, interferometer, electromagnetic wave reflection, microwave communication f

ABSTRACT: In view of the interest in open resonators with different types of reflector for use in quantum generators, the authors attempted an experimental realization of an open resonator with cylindrical mirrors. To this end a set-up was assembled consisting of a Fabry-Perot interferometer, a millimeter-wave generator, and a radiation receiver. The klystron-generated 8-mm electromagnetic wave was transformed by a polystyrene lens and a horn into a plane wave

Card 1/3

L 6730-65

ACCESSION NR: AP4044876

exciting the resonator. Multiple reflection of the electromagnetic wave from the mirrors produced an interference, as a result of which one of the normal modes was established at a fixed distance between mirrors. The wave passing through the resonator was guided by a second polystyrene lens and a horn to a detector and was subsequently recorded. Different modes were recorded by displacing one of the interferometer mirrors. For large Fresnel numbers the curvature of the mirrors has practically no effect, but the diffraction losses are about half those of an interferometer with flat mirrors. For a Fresnel number less than unity, the diffraction losses increase with increasing radius of curvature, but are still half those of an interferometer with a plane mirror. The intensity of the excited fundamental mode is about 20--50 times higher than that of the higher modes. The test results agree well with the theoretical deductions of L. A. Vaynshteyn (ZhTF v. 34, 205, 1964). This report was presented by A. P. Aleksandrov. Orig. art. has: 2 figures, 2 formulas, and 1 table.

Card 2/3

L 6730-65  
ACCESSION NR: AP4044876

ASSOCIATION: None

SUBMITTED: 13Apr64

SUB CODE: EC

NR REF SOV: 001

0  
ENCL: 00

OTHER: 003

Card 3/3

I 5049-66 WWT(1)/BRG(K)-2/STC/SEP(n)-2/PLG(m)/SPG(w)-2 IJP(c) AT

ACC NR: AP5026317

UR/0368/65/003/004/0311/0319

543.46

85  
82  
B

AUTHOR: Balakhanov, V. Ya.; Striganov, A. R. 05, 44

TITLE: Use of the Fabry-Perot interferometer in the microwave spectral region and for plasma diagnostics 21, 44, 45

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no 4, 1965, 311-319

TOPIC TAGS: particle collision, multibeam interferometer, microwave spectroscopy, plasma density, electron, heavy particle, electron collision / Fabry-Perot interferometer

ABSTRACT: In view of the increased need for the application of optical methods in the millimeter spectral range, the authors carried out investigations of the possible uses of multibeam interferometers. Following the presentation of the general interferometer characteristics, the paper describes experiments carried out with mirrors having 0.75, 0.875, 0.935, and 0.985 reflection coefficients. Results cover the diffraction losses, interferometer transmission, resonant type oscillations in plane interferometers, and electron concentration determination in a hydrogen plasma. An analysis of the data shows that the only change in interferometer operation in the microwave spectral region is caused by diffraction losses on the mirror apertures which must be added to the usual reflection and absorption losses. The instrument may be used for plasma electron concentration determination. Since the plasma index of refraction contains also an imaginary part which depends on the frequency of electron-heavy particle

Card 1/2

09010228



L 5049-66

ACC NR: AP5026317

collisions (V. Ya. Balakhanov, V. D. Rusanov, A. R. Striganov, ZhTF, 34, 127, 1965), attempts will be made in the future to determine the frequency of these collisions from the widening of the interference maximum. "The authors thank F. A. Korolev for useful discussions and valuable advice." Orig. art. has: 15 formulas, <sup>44, 55</sup>5 figures, and 1 table. 3

ASSOCIATION: None

SUBMITTED: 04Jan65

ENCL: 00

SUB CODE: OP, ME

NO REF SOV: 006

OTHER: 001

Card 2/2 *md*



L 13001-66 EWT(m)/EWP(t)/EWP(b)/EWA(h) IJP(c) JD/JG

ACC NR: AP6001631

SOURCE CODE: UR/0051/65/019/006/0837/0842

AUTHOR: Golovin, A. F.; Striganov, A. R.

29

ORG: none

28

TITLE: Isotope shift and deformations of Ytterbium nuclei

B

SOURCE: Optika i spektroskopiya, v. 19, no. 6, 1965, 837-842

TOPIC TAGS: Ytterbium, isotope, deformed nucleus

ABSTRACT: This work was done to obtain more complete data on the isotope shift in the spectrum of ytterbium and to use these data for calculating the static deformation and internal quadrupole moment in the nucleus of the rare Yb<sup>168</sup> isotope. Five mixtures of isotopes were used in the study. Each of these mixtures was used for measuring one of the following intervals: Δν(176-172), Δν(176-170), Δν(174-170) and Δν(174-168). The isotopic composition of these mixtures is shown in the table. The direction of the isotope shift was determined from the relative intensity of the isotope components in mixture A or E. The isotopic structure was studied in the 2900-6800 Å region. The experimental equipment and procedure are described. The

Card 1/3

UDC: 535.338.333 : 546.668

L 13001-66

ACC NR: APG001631

isotope shift was measured on 6 lines of a neutral ytterbium atom and on 4 lines of a singly ionized ytterbium atom. The intervals between components of the given isotope pairs are tabulated together with the rms error for each interval. It is found that the relative isotope shift is equal to  $\Delta\nu(176-174):\Delta\nu(174-172):\Delta\nu(172-170):\Delta\nu(170-168)=1.00:(1.10\pm 0.011):1.37\pm 0.004):(1.48\pm 0.006)$ . These data are used as a basis for calculating the parameters of deformation and integral quadrupole moments of ytterbium nuclei. It is found that the parameter of static deformation  $\beta=0.286\pm 0.02$ , the internal quadrupole moment  $Q_0=(7.33\pm 0.56)\cdot 10^{-24}\text{cm}^2$  and the reduced probability of electric quadrupole transitions from the ground state to the first excited level is  $(5.34\pm 0.80)\cdot 10^{-48}\text{cm}^4$  for the nucleus of the rare isotope  $\text{Yb}^{168}$ . The authors thank V. S. Zolotarev and his associate for preparing the enriched ytterbium isotopes.

Card 2/3

L 13001-66  
 ACC NR: AP6001631

Table 1

Mixture	Isotopic Composition						
	168	170	171	172	173	174	176
Natural							
Цирродия . . . . .	0.14	3.03	14.34	21.88	16.18	31.77	12.65
A . . . . .	0.1	0.1	0.7	40.0	0.9	2.8	55.5
B . . . . .	0.1	47.3	3.2	1.5	0.8	2.7	44.5
C . . . . .	0.1	47.0	3.1	1.5	1.3	46.8	0.3
D . . . . .	23.4	11.7	14.0	11.8	7.0	29.0	3.1
E . . . . .	28.7	7.2	9.1	9.0	5.6	37.8	2.6

SUB CODE: 18/ SUBM DATE: 31Aug64/ ORIG REF: 002/ OTH REF: 007

jrn

Card 3/3

BALAKHANOV, V.Ya.; RUSANOV, V.D.; STRIGANOV, A.R.

Multiple-ray radio interferometer for plasma diagnostics. Zhur.  
t.kh. fiz. 35 no.1:127-131 Ja '65.

(MIRA 18:3)

I 22518-66 INT(1)/T IJP(e)  
ACC NR: AT601044

SOURCE CODE: UR/0368/66/004/003/0213/0221

AUTHOR: Malakhanov, V. Ya.; Striganov, A. P.

43  
3

ORG: none

TITLE: Interference filters for millimeter and submillimeter regions of the spectrum

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 3, 1966, 213-221

TOPIC TAGS: optic filter , interferometer, diffraction grating,  
reflector diffraction grating

ABSTRACT: The possibility of creating interference filters for millimeter and sub-millimeter regions of the spectrum has been examined. The shortcomings and advantages of different variations of filters were studied. The authors have come to the conclusion that the best type of filter may be a Fabry-Perot interferometer with mirrors consisting of metal diffraction gratings situated between dielectric plates. The best filtration can be obtained when the mirrors have wedge-shaped bakings and form a skew system. The experimental data are in good agreement with theoretical. The authors thank M. A. Leontovich for his valuable discussions and V. D. Ruzenov and N. H. Elekhev for their help in this work. Orig. art. has: 3 figures and 15 formulas. [Based on authors' abstract.] [UT]

SUB CODE: 14, 20/ SUBM DATE: 16Jul66/ ORIG REF: 008/ OTH REF: 001/

Card 1/1 BK UDC: 535.345.6

L 31506-66 EWT(m)/EWP(t)/ETI IJP(c) JD/WII/JG  
ACC NR: AP6013016 SOURCE CODE: UR/0051/66/020/004/0545/0553

AUTHOR: Korostyleva, L. A.; Striganov, A. R.

ORG: none

TITLE: Hyperfine and isotopic structure in the spectrum of plutonium and its classification

SOURCE: Optika i spektroskopiya, v. 20, no. 4, 1966, 545-553

TOPIC TAGS: plutonium, hyperfine structure, isotope, optic spectrum, spectrum analysis, line shift

ABSTRACT: This is a continuation of earlier work by one of the authors (Korostyleva, Opt. i spektr. v. 14, 177, 1963 and earlier) dealing with the investigation of the hyperfine and isotopic structure in the spectrum of plutonium, and a paper by Korostyleva (ibid. v. 17, 469, 1964) where further identification of the Pu I and Pu II lines made by exciting the spectrum in a hollow cathode at different discharge conditions. The present paper is devoted to additional analysis of the hyperfine and isotopic structure, based on the totality of the experimental results. It is shown that all the 275 lines investigated can be classified with respect to the magnitude and direction of the isotopic shift into six groups, for

Card 1/2

UDC: 539.184.26: 546.799.4



L 31506-66  
ACC NR: AF6013016

which the characteristics and the transitions are given. Level schemes for Pu I and Pu II are presented and the transitions causing the main lines of Pu are identified on this basis. A complete table of the arc and spark lines of Pu is included. Orig. art. has: 2 figures and 2 tables. 0

SUB CODE: 20/    SUBM DATE: 30Nov64/    ORIG REF: 006/    OTH REF: 008

Card 2/2 mc

L 45924-66 EWT(1)/EWP( )/EWT(m)/EEC(k)-2/EWP(j)/T IJP(c) AT/RM/WH

ACC NR: AP6028610

SOURCE CODE: UR/0057/66/036/008/1383/1386

AUTHOR: Balakhonov, V. Ya.; Rusanov, V. D.; Striganov, A. R.

ORG: none

TITLE: Millimeter and submillimeter wavelength interference filters for investigation of plasma radiations

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 8, 1966, 1383-1386

TOPIC TAGS: interferometer, electromagnetic wave interference, interference filter, microwave, microwave filter, plasma radiation, plasma research

ABSTRACT: The authors have previously discussed a Fabry-Perot interferometer for millimeter and submillimeter wavelengths, each of the two mirrors of which consists of a number of parallel metal film bands on a Plexiglas or fused quartz substrate (ZhETF, 35, 127, 1965). In the present paper they discuss an interferometer in which two such mirrors are mounted with their planes parallel but with their respective metallic bands perpendicular to each other ("crossed Fabry-Perot interferometer"). The theory of the crossed interferometer is developed, and it is shown that the instrument can serve as a band pass filter. Such a crossed interference filter, designed for a wavelength of 8.4 mm, was constructed and tested. The mirrors were deposited on in a 9.5 cm diameter circle on 1.05 cm thick Plexiglas substrates. The filter passed 80% of the incident 8.4 mm radiation with a Q-factor of 10, and passed less than 1% of the

UDC: 533.9

Card 1/2

AREF'YEV, A.S.; KRASAVTSEV, M.A.; STRIGANOV, I.M.

Assembling on the ground and raising trihedral wooden signals.  
Geod. i kart. no. 11:16-24 N '60. (MIRA 13:12)  
(Triangulation signal towers)

YERAKHTIN, Dmitriy Dmitriyevich, dots., kand. tekhn. nauk; GOKHMAN, Shlema Moiseyevich, kand. tekhn. nauk; DVINYANINOV, Vistor Nikolayevich, st. prepodavatel'; ZAYTSEV, Pavel Alekseyevich, inzh.; LOPATIN, Anton Venediktovich, dots.; ORLOV, Nikolay Mikhaylovich, inzh.; STRATANOVICH, Nikolay Nikolayevich, inzh.; STRIGANOV, Nikolay Ignat'yevich, inzh.; TIKHONOV, Nikolay Prokop'yevich, dots., kand. tekhn. nauk; RAYKHLIN, Zaliman Tanfilovich, st. prepodavatel'; BELOV, Aleksandr Yemel'novich, dots.; RESHETNIKOV, N.S., dotsent, retsenzent; BABUSHKIN, I.N., red.; PITERMAN, Ye.L., red.izd-va; PARAKHINA, N.L., tekhn. red.

[Repair of lumbering and forestry machinery] Remong lesozagotovitel'nykh i lesokhoziaistvennykh mashin. By D.D.Erakhtin i dr. Moskva, Goslesbumizdat, 1961. 436 p. (MIRA 15:2)

1. Kafedra remonta Moskovskogo lesotekhnicheskogo instituta (for Reshetnikov).  
(Forests and forestry—Equipment and supplies)  
(Lumbering—Machinery)

PROCESSES AND PROPERTIES INDEX

113

The influence of soybeans on the gastric secretion.  
 A. R. Striganova. *Voprosy Pitaniya (Problems of Nutrition)* 2, No. 4, 33-44(1933); *Chem. Zentr.* 1934, II, 1481.—In dogs a single administration of soybean mash produced a lowering of the reflex phase and the secretion of gastric juice; further doses produced an increase. In general the process of secretion resembles that for a meat diet more closely than that for bread. It is concluded that soybean protein may to a certain extent be used to replace meat protein. M. G. Moore

METALLURGICAL LITERATURE CLASSIFICATION

Tissue metabolism at wound healing. D. E. Ryssina and A. R. Striganov. *Bull. Acad. Sci. USSR Div. Biol. Sci.* 1939, 415-437 (in English, 435-6). During wound healing in animals the metabolism is greatly increased. There is an increase in the respiratory coeff., consumption of carbohydrates and cathepsin activity. In the regenerating tissue there is a decrease in the glycogen content and in the amt. of creatine, pyro- and orthophosphates.  
C. Jarowski

ASA 35A METALLURGICAL LITERATURE CLASSIFICATION

130N 578 8477

130N 624 79

082187 Oct Dec 1939

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

190 AND 4TH ORDERS

Local and general changes in proteolysis during the process of regeneration of an organ. D. E. Ryvkina and A. R. Sturiganova. *Bull. acad. sci. U. R. S. S., Ser. biol.* 1939, 789-90 (in English, 799).—The initial stage of the formation of the blastema in 8-12-month-old axolotls is characterized by a decrease in proteolytic activity. At the stage of the laying down of the organ there is a marked increase. A decrease occurs at the stage of intensive growth however. In organs located at a distance from the place of regeneration there is a decided increase.

C. Jarowski

COMMON VARIANTS INDEX

OPEN

MATERIALS INDEX

ASM - ILLA METALLURGICAL LITERATURE CLASSIFICATION

SEARCHED SERIALIZED

INDEXED

UNCLASSIFIED

SEARCHED SERIALIZED

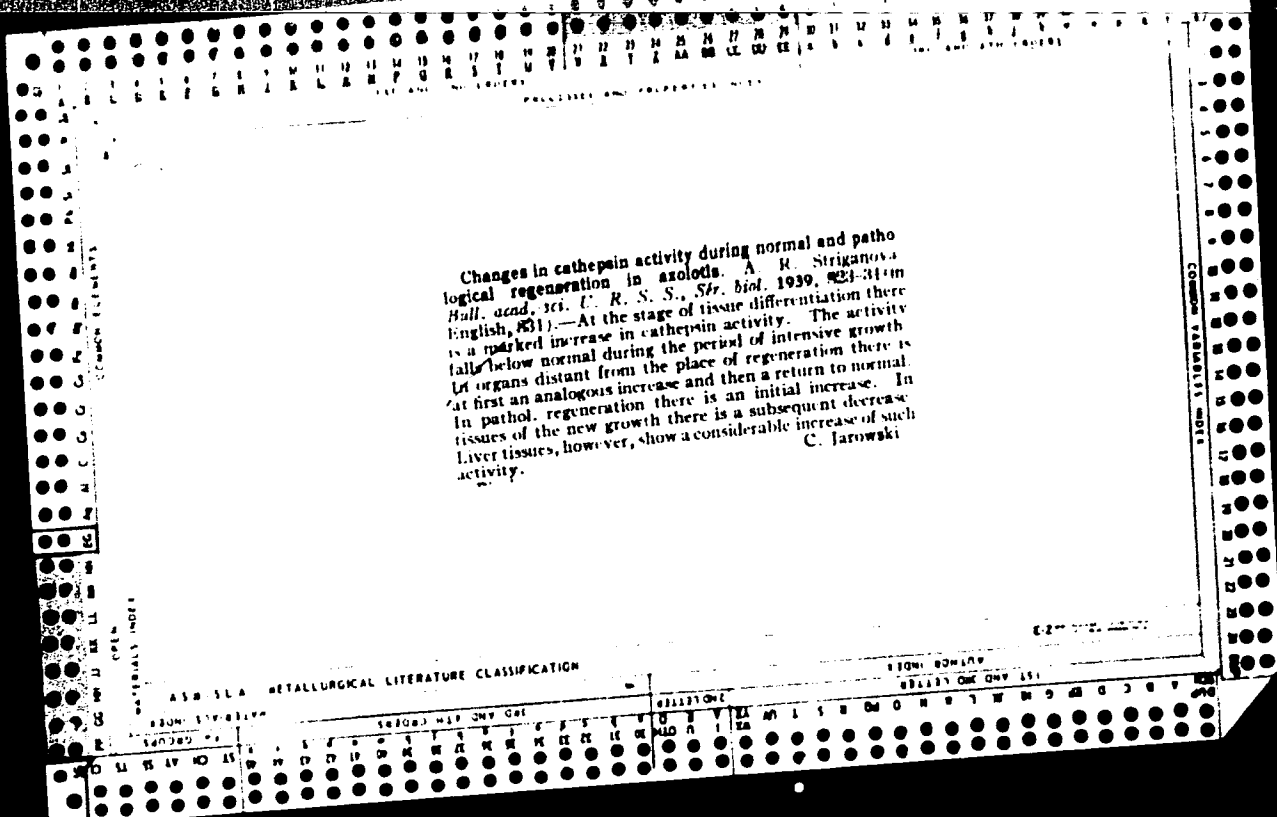
INDEXED

UNCLASSIFIED

SEARCHED SERIALIZED

INDEXED

UNCLASSIFIED





CA

112

Proteolytic activity of tissue of regenerating organs under different conditions. A. Striganova. *Compt. rend. acad. sci. U. R. S. S.* 27, 385-7 (1940) (in German).— The proteolytic activity of regenerating axolotl limbs is greater than that of normal limbs. The difference is more pronounced at pH 4.3 than it is at pH 0.0. The difference disappears as the regenerating organs grow older. Felix Saunders

ASA SLA METALLURGICAL LITERATURE CLASSIFICATION



STRIGANOVA, A. R.

PA 59/49T67

USSR/Medicine - Parathyroid Hormone Mar/Apr 49  
Medicine - Albumin Metabolism

"Effect of Parathyroid Hormone on the Albumin Metabolism of the Bone Tissue," A. R. Striganova, Lab of Histogenesis, Inst of Evolutionary Morph, Acad Sci USSR, 6 pp

"Arkhiv Patologii" No 2

Tabulates data on subject effect of parathyroid hormone. Intramuscular injection of large doses of this hormone causes a sharp increase in the proteolytic activity of bone tissue, a significant disruption in the equilibrium of nitrogen exchange of the bone,

59/49T67

USSR/Medicine - Parathyroid (Contd) Mar/Apr 49  
Hormone

decrease in percent of general nitrogen, increase in concentration of albuminous by-product, but the percent of amino-N barely deviates from normal. Trend of the albumin metabolism of the bone is toward sharp activation of hydrolytic processes. After repeated injections, nitrogen exchange returns to normal, only the proteolytic activity of bone is increased, and the predominant shift in the albumin metabolism toward proteolytic processes occurs only in the initial stage.

Dir, Lab of Histogenesis: Prof A. V. Rumyantsev (deceased).

59/49T67

TA 52/49771

USSR/Medicine - Nervous System  
Medicine - Organs, Degeneration and  
Regeneration May 49

"Importance of the Nervous System in the Process  
of Organic Regeneration," A. Striganova, Inst of  
Evolutionary Morph Imeni A. N. Severtsov, Inst of  
Sci USSR, 3 1/2 pp

"Dok Ak Nauk SSSR" Vol LXVI, No 3

According to collected data, in absence of innervation first period of regeneration after amputations is prolonged and formation of blastema inhibited. This is a local process. Further

52/49771

USSR/Medicine - Nervous System (Contd) May 49

regeneration shows an interconnection between local tissue changes and metabolism of the whole organism. Hence, various substances used as stimuli are effective only during initial period. Submitted by Acad K. I. Skryabin, 28 Mar 49.

Striganova, A.

52/49771

STRIGANOVA, A.

158T65

USSR/Medicine - Regeneration 21 Nov 49  
Morphology

"Data on the Study of Conditions Governing Regenerative Processes," A. Striganova, Inst of Animal Morph Imeni Severtsov, 3 pp

"Dok Ak Nauk SSSR" Vol LXIX, No 3

Conducted tests after amputation of hind legs of axolotls, on the hypothesis that regeneration is an adaptive process of animals and takes different forms according to its development. Introduced cytotoxic serum, obtained from rabbits immunized with tissue suspension prepared from fresh axolotl muscle, into axolotl at certain

158T65

USSR/Medicine - Regeneration 21 Nov 49  
(Contd)

dates after amputation. Compared results with normal regenerative processes. Injections of large doses of serum exerted specific influence on muscular tissue, disturbing normal relation of regenerative processes in the stump, which led to inhibition of growth of injured muscular fiber without direct effect on skeletal proliferation or vascular growth. Normal processes were resumed when injections were discontinued. Data obtained confirmed the initial hypothesis, and proved specific cytotoxic serum is valuable medium for experimental interference in study of regenerative conditions. Submitted 22 Sep 49 by Acad K. I. Skryabin.

158T65

STRIGANOVA, A. R. and STODITSKIY, A. N.

"Restorative Processes in the Skeleton Musculature," published by the Publishing House, Academy of Sciences USSR, 171 pp, 1951.

Institute of Animal Morphology imeni A. N. Severtsov

STRIGANOVA, A. R.

Functional condition of the regenerating muscle. Doklady Akad. nauk SSSR. 81 no. 2:305-308 11 Nov. 1951 (CLML 21:3)

1. Presented by Academician A. I. Oparin 18 September 1951.
2. Institute of Animal Morphology imeni A. N. Severtsov, Academy of Sciences USSR.

STRIGANOVA, A.R.

Significance of the nervous system in the development of restorative process in the muscle. Doklady Akad. nauk SSSR 89 no.4:749-752 1 Apr 1953. (CIME 24:4)

1. Presented by Academician Ye. N. Pavlovskiy 6 February 1953. 2. Institute of Animal Morphology imeni A. N. Severtsov of the Academy of Sciences USSR.



STRIGANOVA, A.R.

Restoration of neuro-muscular junction in denervated muscle. Doklady  
Akad. nauk SSSR 90 no.1:113-116 1 May 1953. (CJML 24:5)

1. Presented by Academician Ye. N. Pavlovskiy 14 February 1953. 2.  
Institute of Animal Morphology imeni A. N. Severtsov of the Academy of  
Sciences USSR.

1. STRIGANOVA, A. R.
2. USSR (600)
4. Nerves
7. Conditions of regeneration of the nerve-muscle connection. Dokl. AN SSSR 90, No. 2, 1953. Inst. Animal Morphology im. Severtsov, AS USSR

In adult animals, close contact between a damaged nerve and a muscle, with consequent formation of a contact between them and regeneration of the nerve, is established only when the innervation of the muscle has been impaired, i.e., the muscle wholly or partly denervated. Furthermore, damage to the denervated muscle expedites formation of the nerve-muscle connection. Presented by Acad Ye. N. Pavlovskiy 3 Mar 53.

260T15

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

STRIGANOVA, A.P.

Results of using myocytotoxic serum in the restoration of  
muscles. Trudy Inst.morf.zhiv. no.11:288-295 '54.

(MIRA 8:2)

(Muscle)(Serum therapy)(Regeneration (Biology))

STRIGANOVA, A.P.

~~SECRET~~

Changes in the function of injured and regenerated muscles. Trudy

Inst.morf.zhiv. no.11:296-321 '54.

(MIRA 8:2)

(Muscle)

STRIGANOVA, A. B.

Regeneration of denervated muscles. Trudy Inst.morf.zhiv. no.11:  
322-355 '54. (MIRA 8:2)  
(Muscle--Innervation)

STRIGANOVA, A.R.

~~Effect of traumas~~  
Effect of traumas on the regeneration of atrophied muscle in rats.  
Dokl.AN SSSR 111 no.4:903-906 D '56. (MLRA 10:2)

1. Institut morfologii zhivotnykh imeni A.N.Severtsova Akademii nauk  
SSSR. Predstavleno akademikom N.N.Anichkovym.  
(MUSCLE) (REGENERATION (BIOLOGY))

STRIGANOVA, A.R. (Moskva)

Reactive changes of the intact muscle following the atrophy and restoration of the opposite denervated muscle in rats [with summary in English]. Arkh.pat. 20 no.9:11-17 S'58 (MIRA 11:10)

1. Iz Instituta morfologii zhivotnykh imeni A.N. Severtsova AN SSSR (dir. - chlen-korrespondent AN SSSR G.K. Khrushchov).

(MUSCLE, physiology,

eff. of atrophy & restoration of denervated musc. on reactive properties of opposite musc. in rats (Rus))

STRIGANOVA, A.R.

Reactivity of denervated muscles in the process of restoration.  
Izv. AN SSSR. Ser. biol. no.3:409-418 My-Je '60. (MIRA 13:7)

1. Institute of Animal Morphology, Academy of Sciences of the U.S.S.R.,  
Moscow.  
(MUSCLE--INNERVATION) (ACETYLCHOLINE)



STRIGANOVA, Aleksandra Romanovna; KHRUSHCHOV, G.K., otv. red.;  
KOLPAKOVA, Ye.A., red.izd-va; ROMANOV, G.N., tekhn. red.

[Reactivity and regenerative ability of denervated muscle at various stages of atrophy] Reaktivnost' i vosstanovitel'naiia sposobnost' denervirovannoi myshtsy na raznykh stadiakh atrofii. Moskva, Izd-vo Akad.nauk SSSR, 1961. 144 p. (MIRA 15:1)

1. Chlen-korrespondent AN SSSR (for Khrushchov).  
(MUSCLE)

L 26980-65  
 Pi-4 IJP(c) AT  
 ACCESSION NR: AP5003246

SWT(1)/EPA(sp)-2/EPA(w)-2/BEC(t)/T/EAA(m)-2  
 s/0057/65/035/001/0127/02

61  
57  
13

AUTHOR: Balakhonov, V.Ya. / Rusanov, V.D. / Striganov, A.R.

TITLE: A multiple beam radiointerferometer for plasma diagnostics

SOURCE: Zhurnal tekhnicheskoy fiziki, v.35, no.1, 1965, 127-131

TOPIC TAGS: plasma diagnostics, interferometer, microwave plasma

ABSTRACT: A multiple beam microwave interferometer of the Fabry-Perot type is proposed for plasma diagnostics. The multiple beam instrument should have the advantage over the usual two-beam interferometer of greater sensitivity, and it should also permit the measurement of the electron collision frequency. A schematic drawing of the proposed instrument is shown in Enclosure 01. The partially reflecting surfaces would consist of silvered mica sheets from which the silver has been removed in parallel strips to provide the requisite transparency. The theory of the instrument is discussed briefly and it is concluded that it should be possible to measure electron concentrations as low as  $1.7 \times 10^9 \text{ cm}^{-3}$ . By observing the change in the Q of the instrument due to the introduction of the plasma, it should be possible to measure electron collision frequencies as low as  $1.4 \times 10^6 \text{ sec}^{-1}$ . Either

Card 1/3

L 26980-65  
ACCESSION NR: AP5003246

4  
a reflector may be moved as in the usual Fabry-Perot interferometer or the exciting frequency may be modulated. In the latter case it would be possible to follow the time development of processes in a pulsed plasma. The use of the confocal Fabry-Perot interferometer is also briefly discussed. This should have some advantages in the case of a cylindrically or spherically symmetric plasma. "In conclusion, the authors express their gratitude to Ye.K.Zavoyskiy for his interest and attention to the work, and also to F.A.Korolev, V.I.Gridnev and O.A.Zinov'yev for discussing it." Orig.art.has: 9 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 03Dec63

NR REF SOV: 002

ENCL: 01

OTHER: 003

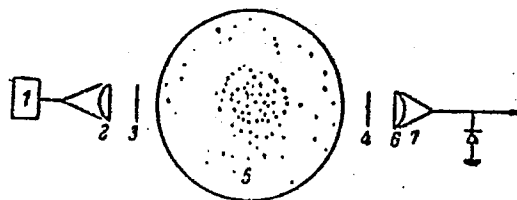
SUB CODE: EC, ME

Card 2/3

L 26930-65  
ACCESSION NR: AP5003246

ENCLOSURE: 01

0



Schematic drawing of the interferometer: 1 - microwave generator,  
2,6 - lenses; 3,4 - reflectors; 5 - plasma  
7 - receiver.

Card 3/3