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Sci - Physics
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~~Morris D. Friedman~~
MIT Lincoln Lab

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SLR 62-18268
A.C. 825 Tr 1171
NLL m. 6279

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AFCRL G-T-R-65-16

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Phenomena in Heavy-Element Activated Alkali-Halide
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Neporent, B. S., Vasilevskii, K. P. and others.
A VACUUM SPECTROMETER WITH DIFFRACTION
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22 June 61 [7]p. (5 figs. omitted) 1 ref.
Order from OTS or SLA \$1.10

61-27254

Trans. of Optika i Spektroskopiya (USSR) 1957, v. 3,
no. 3, p. 289-293.

DESCRIPTORS: *Infrared spectroscopy, *Diffraction
gratings, Vacuum apparatus, Monochromatic light,
Resolution, Design, Optics, Reflection, Water vapor,
Carbon compounds, Monoxides, Absorption spectra,
*Optical spectrometers.

On the basis of a diffraction grating monochromator, a
device was constructed for investigating the infrared
spectrum in the region 0.7 to 3 microns with a resolu-
(Physics--Spectroscopy, TT, v. 8, no. 1) (over)

61-27254

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Office of Technical Services

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INFRARED SPECTRA OF MOLECULAR COMPOUNDS
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[1960] 16p.
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61-12379

1. Metal halides--Spectra
2. Infrared spectra--
Analysis
3. Title: Molecular compounds
1. Fillimonov, V. N.
- II. Bystrov, D. S.
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- IV. ATS-95M45R.
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(12600-3300 Å) (Absorption Spectrum of Liquid
Oxygen in the 12600-3300 Å Region in the Temperature
Range 77-153°K). 20p. (foreign text included, but
illegible), 23refs. CNRS-XXVIII 48.
Order from OTS, ETC or CNRS \$0.80 TT-62-28585

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DESCRIPTORS: *Oxygen, Liquefied gases, *Absorption
spectrum, Spectrophotometers, Complex compounds.

(Physics-Spectroscopy, TT, v. 11, no. 9)

TT-62-28585

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SLA 59-17235

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LUMINESCENCE AND ABSORPTION OF PYRENE
AND 3,4-BENZOPYRENE IN FROZEN SOLUTIONS
OF NORMAL PARAFFINS. [1961] 24p. 11 refs.
Order from SLA \$2.60

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Trans. of Optika i Spektroskopiya (USSR) 1958, v. 4
[no. 5] p. 620-630.

DESCRIPTORS: *Hydrocarbons, Benzoyl radicals,
Solidified gases, Luminescence, Absorption,
Spectrographic analysis, Optics, Fluorescence.

The luminescence spectra and the long-wave portion of
the absorption spectra of pyrene and 3,4-benzopyrene
in solutions of normal paraffinic hydrocarbons from
n-pentane to n-decane have been studied at the temper-
ature of liquid nitrogen. It was shown that under these
conditions the spectra exhibit a linear fine structure
(Physics--Spectroscopy, TT, v. 7, no. 5) (over)

61-20484

I. Shpol'skii, E. V.
II. Girdzhiyauskaite, E. A.

K-H 9681-b

Negative copy loan
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Office of Technical Services

The Reflection of Light by a System of Thin
Film Applied to an Opaque Metal Layer, by M. A.
Validov.

RUSSIAN, per, Optika i Spektroskopia, Vol IV, No 5,
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NIL M. 2952

Sci - Phys

Dec 61

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by L. I. Tarasova, P. P. Feofilov, 4 pp.

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CIA/FDD XX-677

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Sci - Physics

Sep 88 59

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Order from LC on SCA 59-15721

Sverdlov, L.M.
THÉORIE DES INTENSITÉS DES RAIES DE SPEC-
TRES INFRAROUGES DE L'ÉTHYLÈNE ET DU TÉ-
TRADÉTERO-ÉTHYLÈNE (Teoriya Intensivnostei
v Infrazasnykh Spektakh Etilena i Tetradetero-
etilena) (Theory of Intensities in the Infrared Spectra
of Ethylene and Tetradeterioethylene). 14p. (foreign
text included) 7 refs. CNRS-VIII 110.
Order from OTS, ETC or CNRS \$1.60 TT-62-28781

Trans. in French of Optika i Spektroskopiya (USSR)
1958, v.4, no.5, p.697-701.

DESCRIPTORS: *Ethylenes, Deuterium, Infrared
spectroscopy, *Spectra (Infrared), Intensity

(Physics--Spectroscopy, TT, v. 11, no. 9)

TT-62-28781

I. Sverdlov, L.M.
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Office of Technical Services
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Determination de la Composition Isotopique
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Spectra), by A. N. Zaidel, 4 pp.

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GROUND-STATE ENERGY OF He. Optika i Spektros-
kopiya, v. 4, p. 709-711, 1958. ANL-TRANS-248.
Order from NTC as 70-13396-07D: HC \$ 6.70, MF \$ 5.80.

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Determining the Degree of Heterogeneity
of a DC and AC Arc Discharge,
by I. V. Dvornikova, I. M. Nagibina, 16 pp.
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Vol IV, No 4, 1958, pp 421-429. 9697292
FTD-TT-64-1138

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THIN FILM APPLIED TO AN OPAQUE METAL
LAYER (Otrazhenie Sverh Sistemoi Tonkikh Plenok
Nanesennikh na Neprozrachnyi Metallicheski Sloi) tr.
by L. Meyer. [1961] [9] p. 7 refs. S. M. R. E. Trans.
no. 4375; [DSIR LLU] M. 2952.
Order from OTS or SLA \$1. 10

61-23378

Trans. of Optika i Spektroskopiya (USSR) 1958, v. 4,
no. 5, p. 651-657.

DESCRIPTORS: *Mirrors, *Dielectric films, *Light,
Reflection, Thin films, Metal films

It is shown how A. G. Vlasov's mathematical theory
can be used for calculation of the reflection of light
from metal mirrors covered with layers of dielectric
material. Equations are given for the calculation of
(Physics--Optics, TT, v. 6, no. 9) (over)

61-23378

- I. Validov, M. A.
- II. SMRE Trans-4375
- III. DSIR LLU M. 2952
- IV. Safety in Mines Re-
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Energy of the Normal State of He, by
Yu. N. Demkov, et al.

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On the Measurement of Lifetimes of the Levels 3^3P
and 3^1P of Helium Atoms by the Method of Delayed
Coincidences, by A. L. Osherovich, I. G. Savich,
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OTS 61-11437

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Investigation of the Instantaneous Brightness of a Flash
Discharge, by F. A. Charnaya, 11 pp.

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Sci - Phys
Feb 60

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Stepanov, B. I. and Prima, A. M.
THE VIBRATIONAL SPECTRA OF SILICATES. I.
THE COMPUTATION OF FREQUENCIES AND IN-
TENSITIES OF THE SPECTRAL BANDS OF THE
SILICATES. [1961] [28] p. 22 refs.
Order from LC or SLA ml\$2.70, ph\$4.80 61-10905

Trans. of Optika i Spektroskopiya (USSR) 1958,
v. 4 [no. 6] p. 734-749.

New secular equations expressing the frequencies,
forms of the normal vibration, intensities, and polari-
zation of the vibrational lines of the crystals are de-
rived for pyroxenes, crystals with layers of SiO_4 tetra-
hydra, beta-quartz, and beta-cristobalite. (See also
61-10906)

(Physics--Spectroscopy, TT, v. 5, no. 11)

61-10905

1. Silicates--Spectra
2. Glass--Spectra
3. Raman spectra--Analysis
4. Infrared spectra--Analysis
- I. Stepanov, B. I.
- II. Prima, A. M.
- III. Title: Computation...

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On the Causes for the Dependence of the Luminescence
Yield of Organic Substances on the Energy of the
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Sci - Phys
May 59

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Plates for Vacuum Ultraviolet Photography, by
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Vol 2, No 3

NLL M.2442

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61-20836

Sidorov, T. A. and Sobolev, N. N.
INFRARED AND COMBINATION SPECTRA OF BORIC
ANHYDRIDE. III. INTERPRETATION OF VIBRATION
SPECTRUM OF BORIC ANHYDRIDE AND CAL-
CULATION OF ISOTOPIC EFFECT (Infraasny i
Kombinatsionnyi Spektiry Bornoego Angidrida.
III. Interpretatsiya Kolebatel'nogo Spektira Bornoego
Angidrida i Raschet Izotopicheskogo Effekta). [1961]
[22 p. foreign text included] 13 refs.
Order from OTS or SLA \$2.60 61-20836

Trans. of Optika i Spektroskopiya (USSR) 1958, v. 4,
no. 1, p. 9-16.
Other translations are available from OTS or SLA
\$1.60 as 61-19735 [1961] [13]p. and LC or SLA
mi\$2.40, ph\$3.30 as 60-17905, CTS-591, Dec 58 [17]p

DESCRIPTORS: *Anhydrides, *Boric acids, *Infrared
spectroscopy, Molecular structure, Valence, Polari-
zation, *Molecular spectroscopy, Molecular associ-
(Physics-Spectroscopy, TT, v. 7, no. 3) (over)

I. Sidorov, T. A.
II. Sobolev, N. N.
III. Title: Interpretation ...

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Determination of the Degree of Inhomogeneity in
D-C and A-C Arc Discharges, by I. V. Dvornikova,
I. M. Nagibina, 12 pp.
RUSSIAN, per, Optika i Spektroskopiya, Vol IV, No 4,
1958, pp 421-429.
OTS 63-III35
PL-480

Sci - Phys
Mar 64

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Determination of the Concentration of Atoms in the
Plasma of an A-C Arc From Line Widths, by
I. M. Nagibina, 8 pp.
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OTS 63-11135
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Sci - Phys
Mar 64

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Ground-State Energy of He, by Yu. N. Demkov,
M. G. Neigauz, et al.
RUSSIAN, per, Optika i Spektroskop. Vol IV, No 6,
1958, pp 709-714. 9291899
AEC-ANL-Tr-248

Sci - Chem
Feb 66

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Stepanov, B. I. and Prima, A. M.
THE VIBRATIONAL SPECTRA OF SILICATES. II.
INTERPRETATION OF THE SPECTRA OF GLASSES.
[1961] [22]p. 15 refs.
Order from LC or SLA mi\$2.70, ph\$4.80 61-10906

Trans. of Optika i Spektroskopiya (USSR) 1958,
v. 5 [no. 1] p. 15-22.

Previously derived equations (Optika i Spektroskopiya
4: 734-749, 1958; available in translation from LC or
SLA mi\$2.70, ph\$4.80 as 61-10905) are used to calcu-
late the vibrational spectra of silicate crystals and to
interpret the Raman and IR spectra of the silicate
glasses and several crystals. The spectra of meta-
silicate and bi-silicate are qualitatively different. The
spectrum of glasses of the bi-silicate composition sug-
gest the existence in glass of the elements of layers
composed of SiO_4 tetrahedra. The crystals with chemi-
cal composition equivalent to that of bi-silicate possess
the layers of SiO_4 tetrahedra.
(Physics--Spectroscopy, TT. v. 5, no. 11)

61-10906

1. Silicates--Spectra
2. Glass--Spectra
3. Raman spectra--Analysis
4. Infrared spectra--Analysis
- I. Stepanov, B. I.
- II. Prima, A. M.
- III. Title: Interpretation...

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Anomalous Variations of the Intensity of
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JPRS 3343

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(DC-2286)

Spectra of Electron Paramagnetic Resonance of
Cr-Aromatic Compounds With Various Substitutes,
by V. V. Voyevodskiy, Yu. N. Molin, V. M. Chibrikin,)

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*US JPRS

L-1054-0

Sci - Chem

Oct 58