Property Index to Volumes 1 – 4 (1972 – 1975)

This cumulative index to Volumes 1–4 covers both articles that have appeared in the journal and compilations listed in the section Data Compilation Abstracts. A complete citation is given for each entry. Property terms have been chosen to correspond to common usage; cross references are given for synonymous or closely related terms.

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Absorption coefficient, spectral

See: Transition probabilities for atoms and molecules

Activation energies of chemical reactions


Activity coefficients


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First Spectra of Neon, Argon, and Xenon 136 in the 1.2–4.0µm Region – Curtis J. Humphreys. 2, 519 (1973).


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Azeotropic composition


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(Abstract) Thermophysical Properties of Helium-4 from 2 to 1,500 K with Pressures to 1,000 Atmospheres (NBS Technical Note 631) — Robert D. McCarty. 2, 439 (1973).


Diffusion coefficient


Diffusivity
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(abstract) Equilibrium Compositions and Thermodynamic Properties of Mixed Plasmas, \( \text{He} \sim \text{N}_2 \), \( \text{Ar} \sim \text{N}_2 \), and \( \text{Xe} \sim \text{N}_2 \) Plasmas at One Atmosphere between 5000 K and 35,000 K—M. Capitelli, E. Ficocelli, and E. Molinari. 1, 578 (1972).
(abstract) Tables of Collision Integrals and Second Virial Coefficients for the \( \text{m} \sim \text{m} \) Intermolecular Potential Function (NSRDS-NBS—47)—Max Klein, H. J. M. Hanley, Francis J. Smith, and Paul Holland. 3, 1019 (1974).

Equilibrium constant (see also Thermodynamic properties)


Equivalent conductance
See: Electrical conductance

Evaporation and condensation coefficients
Selected Values of Evaporation and Condensation Coefficients for Simple Substances—G. M. Pound. 1, 135 (1972).

Excitation cross section

Excitation potential
See: Atomic energy levels and spectra

f-Values
See: Transition probabilities for atoms and molecules

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See: Heat of formation
Thermodynamic properties

Franck-Condon factor
See: Transition probabilities for atoms and molecules

Free energy
See: Thermodynamic properties

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See: Vibrational frequencies of molecules

Fundamental particle properties
(abstract) Review of Particle Properties—Particle Data Group, Lawrence Radiation Laboratory, Berkeley, California. 1, 576 (1972).

Fundamental physical constants
Fundamental vibrational frequencies

See: Vibrational frequencies of molecules

g-Factor

See: Magnetic moments of molecules

Gamma-ray spectra


Gaseous diffusion coefficient

See: Diffusion coefficient

Gibbs energy

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Heat capacity (see also Thermodynamic properties)


Heat of combustion (see also Thermodynamic properties)


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High energy reaction cross section

(Abstract) A Collection of Pion Photoproduction Data, I—From the Threshold to 1.5 GeV (CERN/HERA 70—1)—P. Spillantini and V. Valente. 1, 575 (1972).

Abstract) Compilation of Cross Sections, I—Proton Induced Reactions (CERN/HERA 70-2)—J. D. Hansen, D. R. O. Morrison, N. Tovey, and E. Flaminio. 1, 575 (1972).


(Property) Compilation of Cross Sections, IV—π+ Induced Reactions (CERN/HERA 70-5)—E. Flaminio, J. D. Hansen, D. R. O. Morrison, and N. Tovey. 1, 575 (1972).


Abstract) Compilation of Cross Sections, VI—π− Induced Reactions (CERN/HERA 70-7)—E. Flaminio, J. D. Hansen, D. R. O. Morrison, and N. Tovey. 1, 575 (1972).


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See: Vibrational spectra (Infrared, Raman)

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The Spectrum of Molecular Oxygen—Paul H. Krupenie. 1, 423 (1972).


Energy Levels of Iron, Fe I through Fe XXVI—Joseph Reader and Jack Sugar. 4, 353 (1975).

Abstract) Ionization Potentials and Ionization Limits Derived From the Analyses of Optical Spectra (NSRDS—NBS—34)—Charlotte E. Moore. 1, 217 (1972).

Kinetic rate constants

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  Part B: C


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Magnetic moments of molecules

The Spectrum of Molecular Oxygen – Paul H. Krupenie. 1, 423 (1972).


Magnetic susceptibility


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- Abstract) Structure Data of Organic Crystals, Part A: C
  Part B: C


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Microwave spectra

See: Rotational spectra

Mobility of electrons and holes

See: Electron swarm parameters  Semiconductor properties

Molecular energy levels and constants


- The Spectrum of Molecular Oxygen – Paul H. Krupenie. 1, 423 (1972).

- Microwave Spectra of Molecules of Astrophysical Interest. I. Formaldehyde, Formamide, Thioformaldehyde – Donald R. Johnson,


(Abstract) Spectroscopic Data Relative to Diatomic Molecules—B. Rosen. 1, 218 (1972).


Molecular spectra
See: Electronic molecular spectra
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(Abstract) Spectroscopic Data Relative to Diatomic Molecules—B. Rosen. 1, 218 (1972).


Nuclear magnetic resonance spectra


Nuclear reaction energies


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(Abstract) A Collection of Pion Photoproduction Data. I—From the Threshold to 1.5 GeV (CERN/HERA 70–1)—P. Spillantini and V. Valente. 1, 575 (1972).


Potential energy curves for atoms and molecules


The Spectrum of Molecular Oxygen—Paul H. Krupenie. 1, 423 (1972).


Prandtl number


(ABSTRACT) Thermophysical Properties of Helium 4 from 2 To 1,500 K with Pressures to 1,000 Atmospheres (NSRDS Technical Note 631)—Robert D. McCarty. 2, 439 (1973).

PVT surface

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Reflectance

See: Spectral emissivity, reflectance, and other radiative properties

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Resistivity, electrical

See: Electrical resistivity

Rotational constants

See: Molecular energy levels and constants

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The Spectrum of Molecular Oxygen—Paul H. Krapenjie. 1, 423 (1972).


Semiconductor properties: mobility, effective mass, energy gap, etc.


Sound velocity


(Abtract) Thermophysical Properties of Helium-4 from 2 to 1,500 K with Pressures to 1,000 Atmpospheres (NBS Technical Note 631) – Robert D. McCarty. 2, 439 (1973).

Specific conductance

See: Electrical conductance

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See: Heat capacity

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Vibrational spectra (Infrared, Raman)

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The Spectrum of Molecular Oxygen – Paul H. Krupenie. 1, 423 (1972).

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Structure, molecular

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Surface tension


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(Abtract) Thermophysical Properties of Helium-4 from 2 to 1500 K with Pressures to 1,000 Atmospheres (NBS Technical Note 631) – Robert D. McCarty. 2, 439 (1972).


Thermal diffusivity

See: Thermal conductivity

Thermal expansion coefficient


Thermodynamic properties: enthalpy, entropy, Gibbs energy, heat capacity (see also Heat of formation, Heat capacity, and other individual properties)


Ideal Gas Thermodynamic Properties of Ethylene and Propylene — Jing Chao and Bruno J. Zvolinsky. 4, 251 (1975).


(Ref) Thermodynamic Properties of Freon 22 — A. V. Kleetskii. 1, 578 (1972).


(Ref) Thermophysical Properties of Helium-4 from 2 to 1500 K with Pressures to 1,000 Atmospheres (NBS Technical Note 631) — Robert D. McCarty. 2, 439 (1973).


(Ref) Thermochromic Properties of the Rare Earths: Part 1. Rare Earth Oxides: Part 2, Rare Earth Oxysulfides; Part 3, Rare Earth Compounds with B, Sn, Pb, P, As, Sb, Bi, Cu, and Ag — Karl A. Schneidner, Jr., Nancy Kippenhan, and D. Dale McMasters. 3, 310 (1974).


Thresholds for nuclear reactions

See: Nuclear reaction energies

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The Spectrum of Molecular Oxygen — Paul H. Krupenie. 1, 423 (1972).


Transmission coefficient
See: Optical transmission coefficient

Transmittance
See: Spectral emissivity, reflectance and other radiative properties

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See: Diffusion coefficient, Thermal conductivity, Viscosity

Vapor pressure (see also Equation of state)


Vibrational frequencies of molecules (see also Molecular energy levels and constants)
Tables of Molecular Vibrational Frequencies, Part 5—T. Shimanouchi. 1, 189 (1972).


(abstract) Spectroscopic Data Relative to Diatomic Molecules—B. Rosen. 1, 218 (1972).


Vibrational spectra (Infrared, Raman)
Tables of Molecular Vibrational Frequencies, Part 5—T. Shimanouchi. 1, 189 (1972).


(abstract) Evaluated Infrared References Spectra, Volumes 6, 7, and 8 and Index to Cobinet Spectra, Volumes 1 to 8—The Cobinet Society, Editors. 1, 838 (1972).


Virial coefficients
See: Equation of state

Viscosity


(abstract) Thermophysical Properties of Helium-4 from 2 to 1500 K with Pressures to 1,000 Atmospheres (NBS Technical Note 631)—Robert D. McCarty. 2, 439 (1973).

Wavelengths of spectral lines
See: Atomic energy levels and spectra, Electronic molecular spectra, Rotational spectra, Vibrational spectra (Infrared, Raman)
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X-ray diffraction powder patterns


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See: Elastic constants