Landolt-Börnstein Substance/Property Index

III/41: Semiconductors
(revised and extended contents of the volumes III/17 and III/22)

Subvolume III/41B: II-VI and I-VII compounds, semimagnetic compounds

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$Cd_{1-x} Co_x S$
$Cd_{1-x} Co_x Se$
$Cd_{1-x} Co_x Te$
$Cd_{1-x} Cr_x S$
$Cd_{1-x} Cr_x Te$
$Cd_{1-x} Fe_x S$
$Cd_{1-x} Fe_x Se$
$Cd_{1-x} Fe_x Te$
$(Cd_{1-x} Mn_x)_3 As_2$
$Cd_{1-x} Mn_x S$
$Cd_{1-x} Mn_x Se$
$Cd_{1-x} Mn_x Te$
$Cd_{1-x} Ni_x Te$
$CdS_{1-x} Se_x$
$CdS_{1-x} Te_x$
$CdSe_x Te_{1-x}$
$Cd_x Sr_{1-x} O$
$Ga_{1-x} Mn_x As$
$Ge_{1-x} Mn_x Te$
$Hg_{1-x} Cd_x Se$
$Hg_{1-x} Cd_x Te$
$Hg_{1-x} Co_x Se$
$Hg_{1-x} Cr_x Se$
$Hg_{1-x} Fe_x S$
$Hg_{1-x} Fe_x Se$
$Hg_{1-x} Fe_x Te$
$Hg_{1-x} Mn_x S$
$Hg_{1-x} Mn_x Se$
$Hg_{1-x} Mn_x Te$
$Hg_{1-x} Zn_x Te$
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$Pb_{1-x} Eu_x Se$
$Pb_{1-x} Eu_x Te$
$Pb_{1-x} Gd_x Te$
$Pb_{1-x} Mn_x S$
$Pb_{1-x} Mn_x Se$
$Pb_{1-x} Mn_x Te$
$Sn_{1-x} Gd_x Te$
$Sn_{1-x} Mn_x Te$
$Sr_x Ba_{1-x} O$
$Sr_x Ca_{1-x} S$
$Zn_x Cd_{1-x} O$
$Zn_x Cd_{1-x} S$
$Zn_x Cd_{1-x} Se$
$Zn_x Cd_{1-x} Te$
$Zn_{1-x} Co_x S$
$Zn_{1-x} Co_x Se$
$Zn_{1-x} Co_x Te$
$Zn_{1-x} Cr_x S$
$Zn_{1-x} Cr_x Se$
$Zn_{1-x} Cr_x Te$
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$Zn_{1-x} Mn_x Se$
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$ZnS_{1-x} Te_x$
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$Cd_x Hg_y Mn_z Te$
Cd(Te,Se,S)
$Cd_x Zn_y Mn_z Te$
$Hg_{1-x} Mn_x Te_{1-y} Se_y$
$Pb_{1-x-y} Sn_y Mn_x Se$
$Pb_{1-x-y} Sn_y Mn_x Te$
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zinc oxide (ZnO)

band structure
energies of symmetry points of the band structure
energy gaps
excitons, general
exciton transition energies
further exciton data
special exciton parameters
biexcitons
splitting energies
electron effective masses
hole effective masses, *g*-factors
deformation potentials
ionization energies of donors
ionization energies of shallow impurities
ionization energies of deep impurities
deep impurity inner transition energies
Zeeman behavior of impurity transitions
isotope shift effects of impurity transitions
quantum efficiencies η and decay times τ of impurity transitions
energy of traps possibly due to acceptors and donors
excitons bound to neutral acceptors
excitons bound to neutral donors
diffusion coefficients
wavenumbers of absorption peaks
ESR spectra
bound excitons

effective *g*-values of bound excitons
crystal structure, lattice parameters
distances, ionic radii, further lattice parameters
thermal expansion
effective ionic charge
phonon dispersion and related parameters
phonon wavenumbers: fundamental modes
phonon wavenumbers: combination modes
Raman and surface phonon wavenumbers
sound velocities
elastic moduli and compliances, bulk modulus, compressibility and related parameters
piezoelectrical strain and stress coefficients
electromechanical coupling factor
pyroelectric constants
electronic conductivity and photoconductivity
resistivity, mobility
thermoelectric power
surface conductivity
thermal conductivity
optical properties and spectra
refractive index
isotropic wavelength
dielectric constants
electrooptical constants
light absorption in crystals with admixtures
nonlinear optical properties
magnetic susceptibility
Debye temperature, heat capacity, density, melting point, vapor pressure, hardness
thermodynamical properties

zinc sulfide (ZnS)

band structure, cubic modification
energy gap, cubic modification
exciton energies, cubic modification
exciton and electron-hole liquid binding energies, cubic modification
Fröhlich and exciton-phonon coupling constants cubic modification
critical point and interband transition energies, cubic modification
spin-orbit splitting, *g*-factor, cubic modification
effective masses, cubic modification
deformation potential, *k*-linear term, cubic modification
band structure, hexagonal modification
energy gap, hexagonal modification
exciton energies, hexagonal modification
interband transition energies, hexagonal modification
crystal field and spin-orbit splitting, *g*-factor, hexagonal modification
effective masses, Luttinger parameters, hexagonal modification
energy states of imperfections and impurities, general remarks
shallow donors, ionization energies and *g*-values
shallow acceptor energies
ionization energies of deep impurities
ionization energies of deep impurities (further data prior to 1980)
deep impurity inner transition energies
crystal field splitting parameter *Dq* and Racah parameter *B* of 3d impurities
property: Zeeman behavior of impurity transitions
isotope shift effects of impurity transitions
pressure coefficients of impurity transitions
quantum efficiencies η and decay times τ of impurity transitions
energy and capture cross section σ of traps possibly due to acceptors and donors
emission energies (maxima of emission bands) of impurity-related transitions

native defects: general
native defects: special defects
impurities in ZnS: scandium
impurities in ZnS: titanium
impurities in ZnS: vanadium
impurities in ZnS: chromium
impurities in ZnS: manganese
impurities in ZnS: iron
impurities in ZnS: cobalt
impurities in ZnS: nickel
impurities in ZnS: copper
ground state properties of rare-earth ions
impurities in ZnS: other substitutional impurities
impurities in ZnS: associates
impurities in ZnS: further associated defects
property: impurity (defect) bound excitons
crystal structure, modifications
lattice parameter, cubic modification
lattice parameter, hexagonal modification
lattice parameter, polytypic ZnS and other modifications
transformation temperature and pressure
thermal expansion
interatomic distances, covalent and ion radii

effective charges
electronic polarizability, ionicity
phonon dispersion
phonon wavenumbers, mean square displacements, cubic modification
phonon wavenumbers, hexagonal modification
phonon wavenumbers, polytypic ZnS(4H)
Raman frequencies and wavenumbers
surface optical phonon wavenumber, cubic modification
sound velocities
elastic moduli, cubic modification
elastic moduli, hexagonal modification
elastic compliances, cubic modification
elastic compliances, hexagonal modification
elastic moduli, pressure dependence
bulk modulus
compressibility, effective charges
third-order elastic constants, Young's modulus, Poisson's ratio, Grüneisen parameters
electromechanical coupling coefficients
internal strain, piezoelectric strain and stress constants
(photo)conductivity, resistivity, cubic modification
carrier mobilities, magnetoresistance, diffusion length, cubic modification

thermal conductivity
optical properties
refractive index, cubic modification
refractive index, hexagonal modification
refractive index, polycrystalline ZnS
bulk-photovoltaic effect, thin films
dielectric constant, cubic modification
dielectric constant, hexagonal modification
electrooptical constants
elastooptical and piezooptical constants
third order elastooptical constants
nonlinear optical coefficients
photodielectric effect
energy efficiency of cathodoluminescence
electron yield, electron affinity
photoelectric threshold, work function
plasmon energy of valence band electrons
absorption and reflection in the uv and ir regions
Raman and Faraday effects, multi-phonon spectra
visible luminescence of ZnS
Debye temperature
heat capacity
molar weight and volume, isotopic abundances
hardness, density
melting point
vapor pressure, heat of vaporization
thermodynamical parameters

zinc selenide (ZnSe)

band structure
energies at symmetry points of the band structure
energy gap
exciton energies
temperature and pressure dependence of exciton energies
further exciton parameters
interband transition energies
spin-orbit splitting energies
free carrier effective masses, Fröhlich coupling constant
exciton reduced masses and other exciton parameters
Luttinger parameters, exchange parameter
g-factors
oscillator strengths
exciton Rydberg energy
electron-hole interaction parameter
k-linear term, deformation potentials
shallow donors, ionization energies
shallow donor, excitation energies
chemical and *g*-values of shallow impurities
shallow acceptor ionization energies
shallow acceptor excitation energies
further data on shallow impurities
emission energies
zero-phonon lines

bound exciton transition and binding energies
bound exciton emission peaks
decay times of acceptor-bound-exciton luminescence
splitting and g-values of bound excitons
excitons bound to neutral donors
transitions into excited electronic states of donor-bound-exciton complexes
decay times of bound-exciton luminescence
pressure dependence of bound excitons
emission band maxima
energy and capture cross section σ of traps possibly due to acceptors and donors
ionization energies of deep impurities
deep impurity inner transition energies
pressure coefficients and quantum efficiencies of impurity transitions
3d impurity emission lines
3d impurity crystal field splitting
impurity *g*-values
spin Hamiltonian parameters
crystal structure, modifications
properties of the rocksalt modification
lattice parameter, thermal expansion
ionic radii, effective charges

phonon dispersion
phonon energies
phonon frequencies
pressure dependence of phonon wavenumbers
energies of local modes
sound velocities
elastic moduli and compliances
compressibility, piezoelectric stress and strain
Young's, shear and bulk moduli
Grüneisen parameters
electrical (photo)conductivity and resistivity
free carrier mobilities, Hall coefficient and magnetoresistance
charge carrier and ion diffusion
thermoelectric power, thermal conductivity
refractive index
absorption coefficient
dielectric constants
Verdet constant
Cotton-Mouton effect, electroooptic and photoelastic coefficients
nonlinear optical properties
radiation damage
magnetic properties
Debye temperature, heat capacity, Schottky barrier heights
density, melting point, hardness
thermodynamical properties

zinc telluride (ZnTe)

band structure, band energies
energy gap
exciton energies
critical point energies, spin-orbit splitting
effective masses
Fröhlich coupling constant, *g*-factors
diamagnetic shift, *k*-linear term
Luttinger parameters, deformation potentials
shallow acceptor and donor energies
deep impurities
bound excitons
crystal structure, lattice parameters, thermal expansion
effective charges
phonon dispersion, phonon frequencies and related data
sound velocities, elastic moduli, bulk modulus, compressibility
Grüneisen parameters, internal strain parameter, piezoelectric constant, effective charges
electrical and thermal transport, carrier mobilities
dielectric constants
refractive index, absorption, luminescence
piezoelectric stress coefficient, photoelastic constants, electrooptic coefficient
nonlinear optical properties
heat capacity, Debye temperature, density, melting point, hardness
thermodynamical properties

cadmium oxide (CdO)

band structure
band energies at symmetry points
energy gap
interband transition energies
effective masses, g-factor and related parameters
impurities and defects
crystal structure, lattice parameters, thermal expansion
phonon properties and frequencies, effective ion charge
transport properties, carrier mobilitites
optical and photoelectric properties, dielectric constants, plasmon energy
magnetic properties
Debye temperature, heat capacity, melting point, density
thermodynamic properties, vapor pressure, phase diagram

cadmium sulfide (CdS)

band structure, hexagonal modification
valence band energies, hexagonal modification
energy gaps, hexagonal modification
splitting parameters, hexagonal modification
k-linear terms, hexagonal modification
energy gap pressure and temperature coefficients, hexagonal modification
interband transition energies, hexagonal modification
deformation potentials, hexagonal modification
free carrier effective masses, hexagonal modification
g-factors, hexagonal modification
diamagnetic shift, Luttinger parameter, deformation potentials,
free excitons, hexagonal modification
further exciton energies, hexagonal modification
exciton polaritons: A-exciton, hexagonal modification
exciton polaritons: B-exciton, hexagonal modification
dense exciton systems, hexagonal modification
biexciton energy, hexagonal modification
electron-hole liquids, highly excited CdS, hexagonal modification
further exciton data, exciton-phonon coupling, oscillator strengths and other parameters
band structure, energy gap, cubic modification
interband transition energies and effective masses, cubic modification
band structure, zincblende modification
ionization and excitation energies of impurities and defects
capture cross-sections of impurities
further data on impurities
impurity (defect) bound excitons
donor-acceptor pairs transitions

crystal structure, modifications
lattice parameters, thermal expansion
phonon dispersion
phonon wavenumbers, mean square displacements
Raman wavenumbers
local modes
sound velocities and absorption
elastic moduli and compliances
piezoelectric stress and strain coefficients
electromechanical coupling factor
vibrational amplitudes, bulk modulus
compressibilities, Grüneisen parameters, effective charges
transport mechanism
intrinsic conductivity and carrier concentrations
electrical and thermal conductivity, resistivity, magnetoresistance
photoconductivity
electron mobilities
hole mobilities
diffusion of carriers and ions
Seebeck and Nernst coefficient
optical properties (general), refractive index and birefringence, Sellmeier coefficients
absorption coefficient, reflectance
dielectric constants
Verdet constant
photoelastic coefficient, nonlinear optics
two photon absorption
optical rectification and bistability
linear and quadratic electrooptic coefficients
Schottky barrier heights
optical and ESR spectra of iron-group-element–impurities
magnetic properties
Debye temperature, heat capacity, density, melting point, hardness
thermodynamic properties, vapor pressure, phase diagram

cadmium selenide (CdSe)

band structure, hexagonal modification
energy gaps, hexagonal modification
valence band splitting parameters, hexagonal modification
energy gap, temperature and pressure coefficients, hexagonal modification
interband transition energies, hexagonal modification
Luttinger parameters, deformation potentials, hexagonal modification
effective masses, Fröhlich coupling constant, hexagonal modification
g-factors, hexagonal modification
exciton energies, hexagonal modification
excitonic polaritons, oscillator strengths, biexcitons, hexagonal modification
dense exciton systems, hexagonal modification
electronic properties, cubic modification
electronic properties, zincblende modification
impurities and defects: ionization energies
further data on shallow and deep impurities
impurity bound excitons
crystal structure, modifications
lattice parameters, thermal expansion
phonon dispersion
phonon wavenumbers, mean square displacements
local mode wavenumbers
sound velocities
elastic moduli
piezoelectric strain and stress coefficients, electromechanical coupling factor
Young's and bulk modulus, compressibility, effective charges

electrical transport
electrical conductivity, carrier concentration, magnetoresistance
photoconductivity and thermal conductivity
electron mobilities
hole mobility, carrier and ion diffusion
thermoelectric power
optical properties, general, refractive index
isotopic wavelength, Sellmeier coefficients
refractive index, birefringence
absorption, reflection, luminescence
dielectric constants
two photon absorption
optical and ESR spectra of iron-group element impurities
electrooptic and non-linear coefficients
magnetic properties
Debye temperature, heat capacity, density, melting point, hardness
thermodynamical properties, phase diagram

cadmium telluride (CdTe)

band structure
band energies at symmetry points
energy gap
critical point and splitting energies
effective masses
g-factors, *k*-linear terms
Kane and Luttinger parameters of valence band, polaron coupling constant
deformation potentials
excitons
impurities and defects: ionization energies
intrinsic defects and defect complexes
property: energy position and capture cross sections (σ) of traps
bound excitons, donor-acceptor pairs
crystal structure, modifications
lattice parameter, thermal expansion
phonon dispersion, phonon frequencies and wavenumbers, local modes
mean square displacements
sound velocities, elastic moduli
bulk modulus, compressibility, ionicity, effective ion charge
Grüneisen parameter, stress and strain coefficient
electrical and thermal transport, carrier mobilities
optical properties, refractive index, dielectric constants, two-photon absorption
Debye temperature, heat capacity, density, melting point, hardness
thermodynamic properties, vapor pressure, phase diagram

mercury oxide (HgO)

crystal structure, physical properties

mercury sulfide (HgS)

crystal structure, modifications
band energies, impurities: α-HgS (trigonal) (red cinnabar)
lattice properties: α-HgS (trigonal) (red cinnabar)
transport properties: α-HgS (trigonal) (red cinnabar)
optical properties, dielectric constants: α-HgS (trigonal) (red cinnabar)
crystal structure, lattice parameters, bulk modulus: β-HgS (zincblende structure)
band structure, energy gap, effective masses: β-HgS (zincblende structure)
further lattice properties: β-HgS (zincblende structure)
transport, optical and further properties: β-HgS (zincblende structure)
Debye temperature, heat capacity, melting point, density, hardness
thermodynamic properties

mercury selenide (HgSe)

band structure, energy gap
interband transition and splitting energies, effective masses, *g*-factor
Luttinger and Kane parameters of the valence band
impurities and defects
crystal structure, lattice parameters
phonon dispersion and phonon wavenumbers
elastic moduli
effective charge, bulk modulus, compressibility
electrical conductivity, electron mobility
optical properties, dielectric constants
Debye temperature, heat capacity, melting point, density, hardness
thermodynamical properties, vapor pressure, phase diagram

mercury telluride (HgTe)

band structure, band energies at symmetry points
energy gap
critical point energies
spin-orbit splitting, *k*-linear term
effective masses
g-factors
Luttinger and Kane parameters
impurities and defects
crystal structure, modifications
lattice parameters
thermal expansion
phonon dispersion, phonon energies and wavenumbers
elastic moduli, sound velocity
bulk modulus, effective charge, Grüneisen parameter
electrical transport, conductivity, mobility
optical properties, dielectric constants
Debye temperature, melting point, density, heat capacity, hardness
thermodynamical properties, vapor pressure, phase diagram

solid solutions of II–VI compounds

properties of IIA–VIB compounds

$ZnS_{1-x}Se_x$

electronic properties
impurities and defects
lattice properties
transport properties
optical properties

$ZnS_{1-x}Te_x$

physical properties

$ZnSe_xTe_{1-x}$

electronic properties
impurities and defects
transport and optical properties

$CdS_{1-x}Se_x$

electronic properties
impurities and defects, lattice and transport properties
optical properties

$CdS_{1-x}Te_x$

physical properties

$CdSe_xTe_{1-x}$

electronic properties
impurities and defects
transport and optical properties

$Zn_xCd_{1-x}O$

physical properties

$Zn_xCd_{1-x}S$

electronic properties
impurities and defects
lattice parameters, phase diagrams
transport properties
optical properties

$Zn_xCd_{1-x}Se$

electronic properties
impurities and defects
transport properties
optical properties

$Zn_xCd_{1-x}Te$

electronic properties
impurities and defects
lattice properties
transport properties
optical properties

$Zn_{1-y}Cd_yS_xSe_{1-x}$

physical properties

$Zn_{1-y}Cd_ySe_xTe_{1-x}$

physical properties

Cd(Te,Se,S)

physical properties

Zn(Te,Se,S)

physical properties

$Zn_xHg_{1-x}Se$

physical properties

$Hg_{1-x}Zn_xTe$

physical properties

$Hg_{1-x}Cd_xSe$

electronic properties
lattice properties
transport and optical properties

$Hg_{1-x}Cd_xTe$

band structure, energy gap
interband transition energies, further band parameters
effective masses
impurity levels
lattice properties
transport properties
optical properties

I–VII compounds

comparative tables on crystal structure of phases at normal conditions
comparative tables on crystal structure of high temperature phases
chemical bond, disorder and melting

cuprous fluoride (CuF)

physical properties

cuprous chloride (γ–CuCl)

band structure
energy gaps
critical point energies
exciton energies, oscillator strength, polariton dispersion
transition energies to higher excited exciton states
exciton splitting energies
spin-orbit splitting energies
exchange energies
exciton radii and binding energy
biexcitons
free carrier effective masses
exciton effective masses
g-factors
deformation potentials
localized excitons
further remarks to electronic properties
electronic properties of NaCl-type CuCl
crystal structure, space group
lattice parameter, thermal expansion, compressibility
phonon dispersion
phonon frequencies, wavenumbers and related data
mean square displacements, Debye-Waller factors, line widths
elastic moduli, mode Grüneisen parameters, effective charges
compressibility, bulk modulus, internal strain parameter
ambipolar diffusion of excitons
ionic conductivity
optical properties, dielectric constants, refractive index
piezoelectric stress coefficient
electrooptic and piezooptic constants, piezobirefringence
second-order nonlinear dielectric susceptibility
third-order nonlinear dielectric susceptibility; electromagnetic coupling constant
magnetic susceptibility
Debye temperature, melting point, density

cuprous bromide (γ–CuBr)

band structure, energy gaps
exciton energies
higher exciton states
edge exciton energies
exciton splitting energies
spin-orbit splitting energy
exciton exchange energies
exciton radii, binding energies and other exciton parameters
effective masses
biexciton parameters
Luttinger parameters, *g*-factors
deformation potentials
electronic properties of NaCl-type CuBr
crystal structure, high-pressure modifications
lattice parameters, thermal expansion
phonon dispersion and frequencies, Debye-Waller factor
elastic moduli
compressibility, bulk modulus, internal strain, Grüneisen parameter, effective charges
ionic conductivity
dielectric constants, refractive index
birefringence, electrooptic and elastooptic constants
second order nonlinear parameters
magnetic susceptibility
Debye temperature, heat capacity, melting point, density

cuprous iodide (γ–CuI)

band structure, energy gap
exciton transition and splitting energies
spin-orbit splitting energy
exciton radii, binding energy and other exciton parameters
effective masses
g-factors
deformation potentials
electronic properties of NaCl-type CuI
crystal structure, high pressure modifications
lattice parameters, thermal expansion
phonon dispersion and frequencies and related data, Debye-Waller factors
elastic moduli, compressibility, bulk modulus, internal strain, Grüneisen parameter, effective charge
ionic conductivity
dielectric constants, refractive index
birefringence, piezoelectric, piezooptic and other optical constants
magnetic susceptibility
Debye temperature, heat capacity, melting point, density

silver monofluoride (AgF)

characterization, band structure and energies
crystal structure, lattice parameters, phonon frequencies
dielectric constants, refractive index
Debye temperature, melting point, density

silver chloride (AgCl)

band structure
energy gaps, indirect edge
deformation potential
exciton binding energy, exchange interaction, *g*-factor
energy gaps, direct edge
effective masses, further band parameters
further remarks to band structure
impurities and intrinsic defects: bound excitons
impurities and intrinsic defects: infrared absorption spectra
impurities and intrinsic defects: transient infrared absorption spectra
impurities and intrinsic defects: self-trapped exciton and hole state (STE, STH)
impurities and intrinsic defects: ODMR spectra
crystal structure, lattice parameters, thermal expansion
phonon dispersion, frequencies and wavenumbers
elastic moduli and compliances
bulk modulus, compressibility. mode Grüneisen parameters
electrical and thermal transport
refractive index, dielectric constants
reflectivity, luminescence
Debye temperature, heat capacity, melting point, density

silver bromide (AgBr)

band structure
band gap, indirect edge
exciton energies
g-factors
band gap, direct edge
effective masses
deformation potentials and related parameters
biexciton parameters
further remarks to electronic properties
impurities and intrinsic defects: bound excitons
impurities and intrinsic defects: infrared absorption spectra
impurities and intrinsic defects: transient infrared absorption spectra
crystal structure, high pressure modifications, lattice parameters, thermal expansion
phonon dispersion
phonon frequencies and wavenumbers, Debye-Waller factors and related data
elastic moduli and compliances
Grüneisen parameters, bulk modulus, compressibility
electrical and ionic transport properties
optical properties, dielectric constants
Debye temperature, heat capacity, melting point, density
physical properties of $AgBr_{1-x}Cl_x$ and $AgBr_{1-x}I_x$ mixed crystals

silver iodide (AgI)

band structure, energy gaps: β-AgI (wurtzite)
edge exciton transition energies: β-AgI (wurtzite)
transitions to higher excited exciton states: β-AgI (wurtzite)
spin-orbit, crystal field and longitudinal–transverse splitting energies (β-AgI)
exciton radius and binding energies
effective and reduced masses
electronic properties of γ–AgI (zincblende)
electronic properties of f.c.c.–AgI (NaCl-type)
crystal structure, high pressure modifications, lattice parameters
phonon dispersion and frequencies, Debye-Waller factors
sound velocities, elastic moduli and compliances, compressibility and related data
lattice properties of γ-AgI and f.c.c-AgI
ionic transport and related properties
dielectric constants
piezoelectric stress coefficient
far-infrared reflectivity and transmission
Debye temperature, melting point, density, heat capacity
$AgBr_{1-x}I_x$, $AgI_{1-x}Cl_x$ and $Ag_xCu_{1-x}I$ mixed crystals

semimagnetic semiconductors

composition and crystal structure of ternary bulk semimagnetic semiconductors
definitions, general properties, structure, general remarks
general remarks and important formulae for narrow gap semiconductors
general remarks and important formulae for wide gap semiconductors

mercury manganese telluride – $Hg_{1-x}Mn_xTe$

band structure, general
band structure parameters
effective mass, *g*-factor, exchange constants
impurities
lattice properties, dielectric constants
transport mechanisms, insulator-metal transition
optical and magnetic properties

mercury manganese selenide – $Hg_{1-x}Mn_xSe$

electronic properties
transport and magnetic properties

mercury manganese sulfide – $Hg_{1-x}Mn_xS$

physical properties

cadmium manganese telluride – $Cd_{1-x}Mn_xTe$

electronic properties
lattice, transport and magnetic properties

cadmium manganese selenide – $Cd_{1-x}Mn_xSe$

physical properties

cadmium manganese sulfide – $Cd_{1-x}Mn_xS$

physical properties

zinc manganese telluride – $Zn_{1-x}Mn_xTe$

physical properties

zinc manganese selenide - $Zn_{1-x}Mn_xSe$

physical properties

zinc manganese sulfide – $Zn_{1-x}Mn_xS$

physical properties

quaternary alloys of II-VI semiconductors with Mn

physical properties

II-VI semimagnetic semiconductors with transition metal ions other than Mn

general properties

mercury iron telluride ($Hg_{1-x}Fe_xTe$)

physical properties

mercury iron selenide ($Hg_{1-x}Fe_xSe$)

physical properties

mercury iron sulfide ($Hg_{1-x}Fe_xS$)

physical properties

cadmium iron telluride ($Cd_{1-x}Fe_xTe$)

physical properties

cadmium iron selenide ($Cd_{1-x}Fe_xSe$)

physical properties

cadmium iron sulfide ($Cd_{1-x}Fe_xS$)

physical properties

zinc iron telluride ($Zn_{1-x}Fe_xTe$)

physical properties

zinc iron selenide ($Zn_{1-x}Fe_xSe$)

physical properties

zinc iron sulfide ($Zn_{1-x}Fe_xS$)

physical properties

mercury cobalt selenide ($Hg_{1-x}Co_xSe$)

physical properties

cadmium cobalt telluride ($Cd_{1-x}Co_xTe$)

physical properties

cadmium cobalt selenide ($Cd_{1-x}Co_xSe$)

physical properties

cadmium cobalt sulfide ($Cd_{1-x}Co_xS$)

physical properties

zinc cobalt telluride ($Zn_{1-x}Co_xTe$)

physical properties

zinc cobalt selenide ($Zn_{1-x}Co_xSe$)

physical properties

zinc cobalt sulfide ($Zn_{1-x}Co_xS$)

physical properties

mercury chromium selenide ($Hg_{1-x}Cr_xSe$)

physical properties

cadmium chromium telluride ($Cd_{1-x}Cr_xTe$)

physical properties

cadmium chromium sulfide ($Cd_{1-x}Cr_xS$)

physical properties

zinc chromium telluride ($Zn_{1-x}Cr_xTe$)

physical properties

zinc chromium selenide ($Zn_{1-x}Cr_xSe$)

physical properties

zinc chromium sulfide ($Zn_{1-x}Cr_xS$)

physical properties

IV-VI semimagnetic semiconductors with Mn, Eu and Gd

general properties

lead manganese telluride – $Pb_{1-x}Mn_xTe$

physical properties

lead manganese selenide – $Pb_{1-x}Mn_xSe$

physical properties

lead manganese sulfide – $Pb_{1-x}Mn_xS$

physical properties

lead tin manganese selenide ($Pb_{1-x-y}Sn_yMn_xSe$)

physical properties

tin manganese telluride – $Sn_{1-x}Mn_xTe$

physical properties

germanium manganese telluride – $Ge_{1-x}Mn_xTe$

physical properties

lead tin manganese telluride ($Pb_{1-x-y}Sn_yMn_xTe$)

physical properties

lead europium telluride ($Pb_{1-x}Eu_xTe$)

physical properties

lead europium selenide ($Pb_{1-x}Eu_xSe$)

physical properties

lead europium sulfide ($Pb_{1-x}Eu_xS$)

physical properties

lead gadolinium telluride ($Pb_{1-x}Gd_xTe$)

physical properties

tin gadolinium telluride ($Sn_{1-x}Gd_xTe$)

physical properties

indium manganese arsenide ($In_{1-x}Mn_xAs$)

physical properties

gallium manganese arsenide ($Ga_{1-x}Mn_xAs$)

physical properties

II-V manganese compounds

general remarks

cadmium manganese arsenide ($Cd_{1-x}Mn_x)_3As_2$

physical properties

zinc manganese arsenide ($Zn_{1-x}Mn_x)_3As_2$

physical properties