INDEX TO VOLUME 190 (A)

Accuracy of atomic co-ordinates derived from Fourier series in X-ray structure analysis. III. (Booth), 482.

Accuracy of atomic co-ordinates derived from Fourier series in X-ray structure analysis. IV. The two-dimensional projection of oxalic acid (Booth), 490.

Accuracy of bond length estimations obtained by double Fourier series methods from X-ray data (Robertson & White), 329.


Adair, M. E. See Adair & Adair.

Adsorption of vapours on mercury. III. Polar substances (Kemball), 117.

Aluminium-manganese-zinc. Intermetallic compound phases (Raynor & Wakeman), 82.

Assignment of the slow-neutron-produced activities of thallium and the dual disintegration of radium E (Broda & Feather), 20.

Atmospheric tides in the ionosphere. II. Lunar tidal variations in the $F$ region near the magnetic equator (Martyn), 273.

Banerjea, B. K. On the propagation of electromagnetic waves through the atmosphere, 67.

Batchelor, G. K. & Townsend, A. A. Decay of vorticity in isotropic turbulence, 534.

Beveers, C. A. & Cochran, W. The crystal structure of sucrose sodium bromide dihydrate, 257.

Booth, A. D. The accuracy of atomic co-ordinates derived from Fourier series in X-ray structure analysis. III, 482.

Booth, A. D. The accuracy of atomic co-ordinates derived from Fourier series in X-ray structure analysis. IV. The two-dimensional projection of oxalic acid, 490.

Born, M. & Green, H. S. A general kinetic theory of liquids. III. Dynamical properties, 455.

Bragg, Sir Lawrence & Nye, J. F. A dynamical model of a crystal structure, 474.

Broadbent, D. & Jánossy, L. Local and extensive penetrating cosmic ray showers, 497.

Broda, E. & Feather, N. The assignment of the slow-neutron-produced activities of thallium and the dual disintegration of radium E, 20.


Catalytic dehydrogenation of naphthenes. I. Kinetic study (Herington & Rideal), 289.

Catalytic dehydrogenation of naphthenes. II. Competition experiments and energies of C-H bonds (Herington & Rideal), 309.

Cochran, W. See Beevvers & Cochran.

Coleman, D. & Howitt, F. O. Studies on silk proteins. I. The properties and constitution of fibroin. The conversion of fibroin into a water-soluble form and its bearing on the phenomenon of denaturation, 145.

Control of amplitude in phase-contrast microscopy (Taylor), 422.

Cosmic-ray bursts and shower spread under large thicknesses of lead (Juritz & Mohr), 426.

Crystal structure (Bragg & Nye), 474.

Crystal structure of some molecular complexes of 4:4'-dinitrodiphenyl. II. The complexes with benzidine, $NN'N'$-tetramethylbenzidine, 4:4'-dihydroxydiphenyl, 4-iododiphenyl and 4-bromodiphenyl (Saunder), 508.

Crystal structure of sucrose sodium bromide dihydrate (Bevers & Cochran), 257.

Cwilong, B. M. Sublimation in a Wilson chamber, 137.

Cyclohexane. Vibration spectrum and molecular configuration (Ramsay & Sutherland), 245.
Davidson, P. M. The establishment of the dilatation effect in a field of sound waves, 418.
Davies, D. R. Turbulence and diffusion in the lower atmosphere with particular reference to the lateral effect, 232.
Decay of vorticity in isotropic turbulence (Batchelor & Townsend), 534.
Density increments of proteins (Adair & Adair), 341.
Dynamical model of a crystal structure (Bragg & Nye), 474.

Elastic scattering of 6.5 MeV deuterons by deuterium, helium and other light elements (Guggenheimer, Heitler & Powell), 196.
Escape of molecules from a plane surface into a still atmosphere (Brookfield, Fitzpatrick, Jackson, Matthews & Moelwyn-Hughes), 59.
Establishment of the dilatation effect in a field of sound waves (Davidson), 418.

Fage, A. & Sargent, R. F. Shock-wave and boundary-layer phenomena near a flat surface, 1.
Feather, N. See Broda & Feather.
Fibroin. Properties and constitution (Coleman & Howitt), 145.
Fitzpatrick, H. D. N. See Brookfield, Fitzpatrick, Jackson, Matthews & Moelwyn-Hughes.

General kinetic theory of liquids. III. Dynamical properties (Born & Green), 455.
Gowan, E. H. Night cooling of the ozonosphere, 227.
Gowan, E. H. Ozonosphere temperatures under radiation equilibrium, 219.
Green, H. S. See Born & Green.

Heitler, H. See Guggenheimer, Heitler & Powell.
Herington, E. F. G. & Rideal, E. K. The catalytic dehydrogenation of naphthenes. II. Competition experiments and energies of C-H bonds, 309.
Howitt, F. O. See Coleman & Howitt.
Huang, K. X-ray reflexions from dilute solid solutions, 102.

Influence of space charge on thermionic emission velocities (Klemperer), 376.
Intermetallic compound phases of the system aluminium-manganese-zinc (Raynor & Wakeman), 82.
Ionosphere. Atmospheric tides (Martyn), 273.

Jackson, J. F. See Brookfield, Fitzpatrick, Jackson, Matthews & Moelwyn-Hughes.
James, R. W. & Sauber, D. H. Some apparent periodic errors in the crystal lattice of the molecular complexes of 4:4'-dinitrodiphenyl with 4-iodo- and 4-bromodiphenyl, 518.
Jánossy, L. See Broadbent & Jánossy.
Kemball, C. The adsorption of vapours on mercury. III. Polar substances, 117.
Klemperer, O. Influence of space charge on thermionic emission velocities, 376.

Local and extensive penetrating cosmic ray showers (Broadbent & Jánossy), 497.
Lunar tidal variations in the \( F \) region near the magnetic equator. Atmospheric tides in the ionosphere. II. (Martyn), 273.


Martyn, D. F. Atmospheric tides in the ionosphere. II. Lunar tidal variations in the \( F \) region near the magnetic equator, 273.

Matthews, J. B. See Brookfield, Fitzpatrick, Jackson, Matthews & Moelwyn-Hughes.

May, A. N. & Powell, C. F. The scattering of 4.2 MeV protons by protons, 170.

May, A. N. See Heitler, May & Powell.

Measurements in the turbulent wake of a cylinder (Townsend), 551.

Moelwyn-Hughes, E. A. See Brookfield, Fitzpatrick, Jackson, Matthews & Moelwyn-Hughes.

Mohr, C. B. O. See Juritz & Mohr.

Naphthenes. Catalytic dehydrogenation. I. Kinetic study (Herington & Rideal), 289.

Naphthenes. Catalytic dehydrogenation. II. Competition experiments (Herington & Rideal), 309.

Night cooling of the ozonosphere (Gowan), 227.

Nye, J. F. See Bragg & Nye.

Oxide cathodes. The effects of the coating-core interface on conductivity and emission (Wright), 394.

Ozonosphere. Night cooling (Gowan), 227.

Ozonosphere temperatures under radiation equilibrium (Gowan), 219.

Pawsey, J. L. See McCready, Pawsey & Payne-Scott.

Payne-Scott, R. See McCready, Pawsey & Payne-Scott.

Powell, C. F. See May & Powell; Heitler, May & Powell and Guggenheimer, Heitler & Powell.

Propagation of electromagnetic waves through the atmosphere (Banerjea), 67.

Proteins (Adair & Adair), 341.

Radium E. Dual disintegration (Broda & Feather), 20.

Ramsay, D. A. The vibration spectrum and molecular configuration of 1:4-dioxane, 562.


Raynor, G. V. & Wakeman, D. W. The intermetallic compound phases of the system aluminium-manganese-zinc, 82.


Sargent, R. F. See Fage & Sargent.

Saunders, D. H. The crystal structure of some molecular complexes of 4:4'-dinitrodiphenyl. II. The complexes with benzidine, \( NN'N'-tetramethylbenzidine, 4:4'-dihydroxydiphenyl, 4-iododiphenyl and 4-bromodiphenyl, 508.\)
Index

Scattering of 4-2 MeV protons by deuterium, helium and other light elements (Heitler, May & Powell), 180.
Scattering of 4-2 MeV protons by protons (May & Powell), 170.
Shock-wave and boundary-layer phenomena near a flat surface (Fage & Sargent), 1.
Silk proteins. I. (Coleman & Howitt), 145.
Solar radiation at radio frequencies and its relation to sunspots (McCready, Pawsey & Payne-Scott), 357.
Some apparent periodic errors in the crystal lattice of the molecular complexes of 4:4'-dinitrodiphenyl with 4-iodo- and 4-bromodiphenyl (James & Saunders), 518.
Some improvements in the use of relaxation methods for the solution of ordinary and partial differential equations (Fox), 31.
Studies on silk proteins. I. The properties and construction of fibroin. The conversion of fibroin into a water-soluble form and its bearing on the phenomenon of denaturation (Coleman & Howitt), 145.
Sublimation in a Wilson chamber (Cwilong), 137.
Sutherland, G. B. B. M. See Ramsay & Sutherland.

Taylor, E. W. The control of amplitude in phase-contrast microscopy, 422.
Thallium. Slow-neutron-produced activities (Broda & Feather), 20.
Theory of the magneto-resistance effects in metals (Sondheimer & Wilson), 435.
Townsend, A. A. Measurements in the turbulent wake of a cylinder, 551.
Townsend, A. A. See Batchelor & Townsend.
Turbulence and diffusion in the lower atmosphere with particular reference to the lateral effect (Davies), 232.

Vibration spectrum and molecular configuration of cyclohexane (Ramsay & Sutherland), 245.
Vibration spectrum and molecular configuration of 1:4-dioxane (Ramsay), 562.

Wakeman, D. W. See Raynor & Wakeman.
White, J. G. See Robertson & White.
Wright, D. A. Oxide cathodes. The effect of the coating-core interface on conductivity and emission, 394.

X-ray reflexions from dilute solid solutions (Huang), 102.

END OF THE ONE HUNDRED AND NINetieth VOLUME (SERIES A)
CONTENTS

SERIES A  VOLUME 190

No. A 1020. 17 June 1947

Shock-wave and boundary-layer phenomena near a flat surface. By A. Fage, F.R.S. and R. F. Sargent. (Plates 1 and 2) ........................................ 1
The assignment of the slow-neutron-produced activities of thallium and the dual disintegration of radium E. By E. Broda and N. Feather, F.R.S. .... 20
Some improvements in the use of relaxation methods for the solution of ordinary and partial differential equations. By L. Fox .................................. 31
The escape of molecules from a plane surface into a still atmosphere. By K. J. Brookfield, H. D. N. Fitzpatrick, J. F. Jackson, J. B. Matthews and E. A. Moelwyn-Hughes ................................................................. 59
On the propagation of electromagnetic waves through the atmosphere. By B. K. Banerjea ................................................................. 67

The intermetallic compound phases of the system aluminium-manganese-zinc. By G. V. Raynor and D. W. Wakeman. (Plates 3 and 4) ............. 82

X-ray reflexions from dilute solid solutions. By K. Huang ..................................... 102

The adsorption of vapours on mercury. III. Polar substances. By C. Kemball .... 117

Sublimation in a Wilson chamber. By B. M. Cwilong .................................. 137

No. A 1021. 8 July 1947

Studies on silk proteins. I. The properties and constitution of fibroin. The conversion of fibroin into a water-soluble form and its bearing on the phenomenon of denaturation. By D. Coleman and F. O. Howitt. (Plate 5) ............ 145

The scattering of 4.2 MeV protons by protons. By A. N. May and C. F. Powell 170

The scattering of 4.2 MeV protons by deuterium, helium and other light elements. By H. Heitler, A. N. May and C. F. Powell .......................... 180

The elastic scattering of 6.5 MeV deuterons by deuterium, helium and other light elements. By K. M. Guggenheimer, H. Heitler and C. F. Powell 196

Ozonosphere temperatures under radiation equilibrium. By E. H. Gowan ......... 219

Night cooling of the ozonosphere. By E. H. Gowan ..................................... 227

Turbulence and diffusion in the lower atmosphere with particular reference to the lateral effect. By D. R. Davies ........................................ 232

The vibration spectrum and molecular configuration of cyclohexane. By D. A. Ramsay and G. B. B. M. Sutherland ................................... 245

The crystal structure of sucrose sodium bromide dihydrate. By C. A. Beevers and W. Cochran ....................................................... 257

Atmospheric tides in the ionosphere. II. Lunar tidal variations in the F region near the magnetic equator. By D. F. Martyn ............................. 273
No. A 1022. 12 August 1947


The catalytic dehydrogenation of naphthenes. II. Competition experiments and energies of C-H bonds. By E. F. G. Herington and E. K. Rideal, F.R.S. ... 309

The accuracy of bond-length estimations obtained by double Fourier series methods from X-ray data. By J. M. Robertson, F.R.S. and J. G. White ........ 329

The density increments of proteins. By G. S. Adair, F.R.S. and M. E. Adair .......... 341


Influence of space charge on thermionic emission velocities. By O. Klemperer .... 376

Oxide cathodes. The effect of the coating-core interface on conductivity and emission. By D. A. Wright .................. 394

The establishment of the dilatation effect in a field of sound waves. By P. M. Davidson ........ 418

The control of amplitude in phase-contrast microscopy. By E. W. Taylor. (Plates 6 and 7) ............... 422

Cosmic-ray bursts and shower spread under large thicknesses of lead. By J. W. F. Juritz and C. B. O. Mohr ................. 426

No. A 1023. 9 September 1947


A general kinetic theory of liquids. III. Dynamical properties. By M. Born, F.R.S. and H. S. Green ...... 455

A dynamical model of a crystal structure. By Sir Lawrence Bragg, F.R.S. and J. F. Nye. (Plates 8 to 21) ............ 474

The accuracy of atomic co-ordinates derived from Fourier series in X-ray structure analysis. III. By A. D. Booth ........ 482

The accuracy of atomic co-ordinates derived from Fourier series in X-ray structure analysis. IV. The two-dimensional projection of oxalic acid. By A. D. Booth 490

Local and extensive penetrating cosmic ray showers. By D. Broadbent and L. Jánossy ............. 497

The crystal structure of some molecular complexes of 4:4'-dinitrodiphenyl. II. The complexes with benzidine, \(\text{NN} \cdot \text{N'}\cdot\text{N}''\cdot\text{tetramethylbenzidine}, \text{4:4'-dihydroxydiphenyl}, \text{4-iododiphenyl} \) and \text{4-bromodiphenyl}. By D. H. Saunder. (Plate 22) ... 508

Some apparent periodic errors in the crystal lattice of the molecular complexes of \text{4:4'-dinitrodiphenyl} with \text{4-iodo-} and \text{4-bromodiphenyl}. By R. W. James and D. H. Saunder. (Plate 23) ...... 518

Decay of vorticity in isotropic turbulence. By G. K. Batchelor and A. A. Townsend 534

Measurements in the turbulent wake of a cylinder. By A. A. Townsend ........ 551

The vibration spectrum and molecular configuration of 1:4-dioxane. By D. A. Ramsay 562

Index ........... 575