

INDEX TO VOL. CXLIV. (A.)

- Air, thermal conductivity (Laby), 494.
- Alloys, theory of, in the γ -phase (Jones), 225.
- Alpha rays, energies (Wilson), 280.
- Arnot (F. L.) Diffraction of electrons in the halogens, 360.
- Bailey (R. W.) See Sidgwick and Bailey.
- Bell (J.) See Bone and Bell.
- Blackett (P. M. S.) See Chadwick and others.
- Bone (W. A.) and Bell (J.) The supposed intervention of steam in hydrocarbon combustion, 257.
- Bone (W. A.) and Lamont (F. G.) The influence of pressure upon the flame spectra of hydrogen and carbonic oxide, 250.
- Born (M.) and Infeld (L.) Foundations of the new field theory, 425.
- Boys (S. F.) Optical rotatory power. I.—A theoretical calculation for a molecule containing only isotropic refractive centres, 655.
- Boys (S. F.) Optical rotatory power. II.—The calculation of the rotatory power of a molecule containing four refractive radicals at the corners of an irregular tetrahedron, 675.
- Bradford (B. W.) See Finch and Bradford.
- Bradley (A. J.) and Rodgers (J. W.) Crystal structure of the Heusler alloys, 340.
- Carbonyl and nitrosyl compounds, metallic, structures (Sidgwick and Bailey), 521.
- Chadwick (J.), Blackett (P. M. S.) and Occhialini (G. P. S.) Some experiments on the production of positive electrons, 235.
- Cockcroft (J. D.) and Walton (E. T. S.) Experiments with high velocity positive ions. III.—The disintegration of lithium, boron and carbon by heavy hydrogen ions, 704.
- Collisions, ionizing, scattering of electrons (Mohr and Nicoll), 596.
- Collisions, quantum theory (Massey and Mohr), 188.
- Combustion, hydrocarbon, supposed intervention of steam (Bone and Bell), 257.
- Conduction, metallic, general proof of certain fundamental equations in the theory (Jones and Zener), 101.
- Conductivity, thermal, of air (Laby), 494.
- Conductivity, thermal, of some gases at 0° C (Kannuluik and Martin), 496.
- Corkan (R. H.) An annual perturbation in the range of tide, 537.
- Cosmic radiation, production of showers (Gilbert), 559.
- Decomposition, thermal, of nitrous oxide at pressures up to forty atmospheres (Hunter), 386.
- Denisoff (A. K.) and Richardson (O. W.) Emission of electrons under the influence of chemical action, II, 46.
- Discussion on heavy hydrogen (Rutherford and others), 1.
- Dispersion, metallic, quantum theory of, in the near infra-red (Hurst), 377.
- Dissociation, electrolytic, by the Raman effect (Rao), 159.

- Electrons, diffraction, in the halogens (Arnot), 360.
- Electrons, emission under the influence of chemical action. Part II.—Some general conclusions and a further study of the case of carbonyl chloride (Denisoff and Richardson), 46.
- Electrons, positive, experiments on the production (Chadwick and others), 235.
- Electrons, scattering in ionizing collisions with gas atoms (Mohr and Nicoll), 596.
- Equilibria, gas-solid, studies (Lambert and Peel), 205.
- Ethane, note on structure (Penney), 166.
- Ethylene, structure, and a note on the structure of ethane (Penney), 166.
- Evolution, stellar, Kelvin-Poincaré problem (Narlikar), 28.
- Fage (A.) Photographs of fluid flow revealed with an ultramicroscope, 381.
- Farkas (A.) and Farkas (L.) Experiments on heavy hydrogen, I, 467.
- Farkas (A.), Farkas (L.) and Harteck (P.) Experiments on heavy hydrogen, II, 481.
- Farkas (L.) *See* Farkas and Farkas, *also* Farkas and others.
- Field theory, new, foundations (Born and Infeld), 425.
- Finch (G. I.) and Bradford (B. W.) Electrical condition of hot surfaces. VI.—A gold surface catalysing the combustion of carbonic oxide, 320.
- Fisher (H. R.) Extension of Southwell's method of analysing experimental observations in problems of elastic stability, 609.
- Fisher (R. A.) Two new properties of mathematical likelihood, 285.
- Flint (H. T.) A relativistic basis of the Quantum theory, 413.
- Flow, fluid, photographs of, revealed with an ultramicroscope (Fage), 381.
- Fowler (R. H.) General considerations on the theory of the separation of H^1 and H^2 by electrolysis of water, 452.
- Gamma-phase, theory of alloys (Jones), 225.
- Gamma rays, energies (Wilson), 280.
- Gases, free paths and transport phenomena (Massey and Mohr), 188.
- Gilbert (C. W.) Production of showers by cosmic radiation, 559.
- Halogens, diffraction of electrons (Arnot), 360.
- Harteck (P.) *See* Farkas and others, *also* Oliphant and others.
- Havelock (T. H.) Calculation of wave resistance, 514.
- Heusler alloys, crystal structure (Bradley and Rodgers), 340.
- Horner (R. G.) *See* Woodward and Horner.
- Hunter (E.) Thermal decomposition of nitrous oxide at pressures up to forty atmospheres, 386.
- Hurst (C.) Metallic dispersion in the near infra-red, 377.
- Hydrogen, heavy, discussion (Rutherford and others), I.
- Hydrogen, heavy, disintegration of lithium, boron and carbon (Cockcroft and Walton), 704.
- Hydrogen, heavy, experiments (Farkas and Farkas), 467, and (Farkas and others), 481.
- Hydrogen, heavy, general considerations on the theory of separation of H^1 and H^2 by electrolysis of water (Fowler), 452.
- Hydrogen, heavy, transmutation effects (Oliphant and others), 692.
- Infeld (L.) *See* Born and Infeld.
- Ions, positive, experiments with high velocity (Cockcroft and Walton), 704.

- Jones (E. Gwynne) Hyperfine structure in the arc spectrum of xenon, 587.
- Jones (H.) Theory of alloys in the γ -phase, 225.
- Jones (H.) and Zener (C.) A general proof of certain fundamental equations in the theory of metallic conduction, 101.
- Jones (I.) and Soper (F. G.) Effect of solvent on reaction velocity. V.—The Interaction of N-chloroacetanilide and hydrobromic acid in dilute aqueous solution, 643.
- Kannuluik (W. G.) and Martin (L. H.) Thermal conductivity of some gases at 0° C, 496.
- Keggin (J. F.) Structure and formula of 12-phosphotungstic acid, 75.
- Kelvin-Poincaré problem of stellar evolution (Narlikar), 28.
- Laby (T. H.) Thermal conductivity of air, 494.
- Lambert (B.) and Peel (D. H. P.) Studies on gas-solid equilibria. V.—Pressure-concentration equilibria between silica gel and (1) oxygen, (2) nitrogen, (3) mixtures of oxygen and nitrogen, determined isothermally at 0° C, 205.
- Lamont (F. G.) *See* Bone and Lamont.
- Larmor (Sir Joseph) *See* Narlikar.
- Lonsdale (K.) *See* Orelkin and Lonsdale.
- Marble, bending (Rayleigh), 266.
- Martin (L. H.) *See* Kannuluik and Martin.
- Massey (H. S. W.) and Mohr (C. B. O.) Free paths and transport phenomena in gases and the quantum theory of collisions. II.—The determination of the laws of force between atoms and molecules, 188.
- Mathematical likelihood, two new properties (Fisher), 285.
- Mohr (C. B. O.) *See* Massey and Mohr.
- Mohr (C. B. O.) and Nicoll (F. H.) Scattering of electrons in ionizing collisions with gas atoms, 596.
- Molecule, calculation of rotatory power (Boys), 655, 675.
- Narlikar (V. V.) Kelvin-Poincaré problem of stellar evolution, with an addition on dynamical evolution, by Sir Joseph Larmor, 28.
- Nicoll (F. H.) *See* Mohr and Nicoll.
- Nitrates, dissociation (Rao), 159.
- Nitrosyl compounds, metallic, structures (Sidgwick and Bailey), 521.
- Nitrous oxide, thermal decomposition at pressures up to forty atmospheres (Hunter), 386.
- Occhialini (G. P. S.) *See* Chadwick and others.
- Oliphant (M. L. E.), Harteck (P.) and Rutherford (Lord) Transmutation effects observed with heavy hydrogen, 692.
- Optical Rotatory power (Boys), 655, 675.
- Orelkin (B.) and Lonsdale (K.) Structure of *symm.* (1-3-5) triphenylbenzene, 630.
- Peel (D. H. P.) *See* Lambert and Peel.
- Penney (W. G.) The theory of the structure of ethylene and a note on the structure of ethane, 166.
- Phosphotungstic acid, structure and formula (Keggin), 75.
- Quantum theory of collisions (Massey and Mohr), 188.
- Quantum theory, relativistic basis (Flint), 413.

- Raman effect on electrolytic dissociation (Rao), 159.
- Rao (I. Ramakrishna) Study of electrolytic dissociation by the Raman effect. II.—Nitrates, 159.
- Rayleigh (Lord) The bending of marble, 266.
- Richardson (O. W.) *See* Denisoff and Richardson.
- Rodgers (J. W.) *See* Bradley and Rodgers.
- Rotatory power of the molecule (Boys), 655, 675.
- Rutherford (Lord) and others Discussion on heavy hydrogen, 1.
- Rutherford (Lord) *See also* Oliphant and others.
- Sidgwick (N. V.) and Bailey (R. W.) Structures of the metallic carbonyl and nitrosyl compounds, 521.
- Solvent, effect on reaction velocity (Jones and Soper), 643.
- Soper (F. G.) *See* Jones and Soper.
- Southwell's method of analysing experimental observations in problems of elastic stability, extension of (Fisher), 609.
- Spectra, flame, of hydrogen and carbonic oxide, influence of pressure (Bone and Lamont), 250.
- Spectrophotometer, photoelectric, using dual electrostatic compensation (Woodward), 118.
- Spectrum, arc, of xenon, hyperfine structure (Jones), 587.
- Spectrum, Raman, changes in, of sulphuric acid on dilution (Woodward and Horner), 129.
- Stability problems, elastic, extension of Southwell's method of analysing experimental observations (Fisher), 609.
- Stimson (J. C.) Electrical condition of hot surfaces during the adsorption of gases. Part V.—The charging up of hot surfaces, 307.
- Sulphuric acid, changes in Raman spectrum on dilution (Woodward and Horner), 129.
- Surfaces, hot, electrical condition during the adsorption of gases (Stimson), and (Finch and Bradford), 307, 320.
- Tide, annual perturbation in the range (Corkan), 537.
- Tin, nuclear spin (Tolansky), 574.
- Tolansky (S.) Nuclear spin of tin, 574.
- Triphenylbenzene, structure of symmetrical (1-3-5) (Orelkin and Lonsdale), 630.
- Velocity, reaction, effect of solvent (Jones and Soper), 643.
- Walton (E. T. S.) *See* Cockcroft and Walton.
- Wave resistance, calculation (Havelock), 514.
- Wave-resistances and wave-profiles for a form having parabolic waterlines, comparison of experiment and calculated (Wigley), 144.
- Wigley (W. C. S.) A comparison of experiment and calculated wave-profiles and wave-resistances for a form having parabolic waterlines, 144.
- Wilson (H. A.) Energies of alpha and gamma rays, 280.
- Woodward (L. A.) A photoelectric spectrophotometer using dual electrostatic compensation, 118.
- Woodward (L. A.) and Horner (R. G.) Changes in the Raman spectrum of sulphuric acid on dilution, 129.
- Xenon, hyperfine structure in the arc spectrum (Gwynne Jones), 587.
- Zener (C.) *See* Jones and Zener.

