

The Physical Review

Series 1

Nichols EF A study of the transmission spectra... PR **1** 1-3, 6,7, 18. 1893 [stroke 21]
Austin LW PR **1** 1894 381 [cryo p514]

CP Steinmetz. Notes on the theory of oscillating currents. PR **3** 335 1896 [stroke1106]
Bridgman PW Changes of phase under pressure. PR **3** 1914 p 153-203 [mel p 244]

Gressman, G PR **9** 1899 20 [cryo p514]

EF Nichols & GF Hull. A preliminary communication on the pressure of heat and light.. PR 1st series **13** 307-8, 317-20 1901 [stroke21]

Rutherford & Cooke A penetrating radiation from the Earth's surface. PR 1st series **16** 183A
1903 [stroke 21]`

Coblentz Some optical properties of iodine PR **16** 1903 35-50; **17** 1903, 51-59 [dsb]

FC Gates Effect of Heat on Excited Radioactivity PR **16** 1903 300 [wpc]

Lyman An explanation of false spectra from diffraction ratings PR **16** 1903 257-266 [dsb]

Hull The effect of a uniform magnetic field PR **18** 1921 31-57 [classic article on magnetron]
DSB VI 546-7

FC Gates On the Nature of Certain Radiations from Sulphate of Quinine PR **18** 135 1904 [wpc]

Bradley & Rowe. Test of liquid air plant.. PR **19** 1904 330 [cryo p2, 515]

RW Wood & HW Springsteen. The magnetic rotation of sodium vapour. PR 1st series **21** 41-51
1905 [stroke21]

AH Compton A quantum theory of the scattering.. PR **21** 1923 483-502 [dsb/Q cat 1232,
number at £375]

Rutherford PR 1906 **22** 122 [part943]

EB Rosa & NE Dorsey The ratio of the electromagnetic and electrostatic.. PR 1st series **22** 367-
8A 1906 [stroke 21]

AH Compton The spectrum of scattered X-rays PR **22** 1923 409-413 [dsb]

Pierce GW Crystal rectifiers for electric currents PR Series 1 **25** 31-60 1907 [stroke1106]

Millikan PR 1908 **26** 197 [part931]

GB Pengram & HW Webb Heat developed in mass of thorium oxide PR 1st series **26** 410A
1908 [stroke 21]

OW Richardson & FC Brown The kinetic energy of the negative ions from hot metals. PR **26**
409-410 1908 [stroke1099, 1106]

Condon A theory of intensity distribution.. PR **28** 1926 1182-1201 [stroke p83]

C Barus & M Barus The grating interferometer. PF 1st series **31** 591-598 1910 [stroke21]

CD Child Discharge from hot CaO. PR 1st series **32** 492-511 1911 [stroke 21]
Millikan The isolation of an ion, PR 1911 **32** 349 [douglas clark p40]

H. Fletcher A verification of the theory of Brownian movements.. PR 1st series **33** 81-95, 106-
110 1911 [stroke21]

Series 2.

- Millikan On the elementary electrical charge and the Avogadro constant. PR 1913 **2** 109-124, 133, 136-143 [part931/stroke 21/physp6]
- WD Coolidge. A powerful Rontgen ray tube.. PR **2** 409-410, 415-6, 430 1913 [stroke1099/dsb17 p179/TV p 280]
- Kadesch WH The energy of photo-electrons PR **2** 367-374 1914 [stroke 21]
- Langmuir I The effect of space charge and residual gases on thermionic currents.. PR **2** 1913 450-7, 485-6 [stroke1099/TV p 280]
- Lyman PR 1914 **3** 104 [disc file-andrade]
- Buckingham PR **4** 1914 345-376 [dsb]
RA Millikan PR 4 1914 p 73 [sub p387]
- SJ Barnett PR **6** 1915 p 239 [sub p261]
RA Millikan PR 6 1915 p 55 [sub p 387]
- Millikan PR 1916 **7** 18 [sub p363]
Millikan A direct photoelectric determination.. PR 1916 **7** 355 [douglas clark p155/sub p363]
- Davisson. Dispersion of Hydrogen and Helium...Phys. Rev. 2nd Series, **8**, 1916, 20-27.
[nobwho/dsb]
- Langmuir I A high vacuum mercury vapor pump.. PR **8** 1916 48-51 [stroke 1099]
R. Tolman & JQ Stewart PR 8 1916 p 97 [sub p264]
- Dempster AJ A new method of positive ray analysis. PR **11** 1918 316-24 [msp]
JQ Stewart PR **11** 1918 100 [sub p264]
Raymond WJ A Harmonic Synthesizer ... PR 11 1918 479-481 [cor p 139]
- Richtmyer & Grant The mass-absorption coefficient PR **15** 1920 547-9 [dsb]
- WG Cady The piezo electric resonator PR **17** 1921 531A [stroke 1099]
- Richtmyer Absorption of X-rays PR **18** 1921 13-30 [dsb]
- Milton/Lane/Hewlett/Fletcher & Wegel PR 1922 vol **19** p 52, 80, 492, 553 [disc file]
- Davisson. Thermionic work Function of Tungsten.. Phys. Rev. 2nd series, **20**, 1922 300-30
[nobwho/dsb]
- Richtmyer The size of the electron PR **20** 1922 87-8 [dsb]
- AH Compton. The Physical Review, 1923, second series vol. **21**, No. 5, pp. 483-502 [qcat 1249p10/ nobwho/sub p 414/tim]
Davisson Scattering of Electrons by a positive nucleus PR **21** 1923 637-49 [dsb]
- Davisson Scattering of PR **22** 1923 242-58 [dsb]; **30** 1927 705-740 [dsb] - full re
- Richtmyer & Spencer The structure of the K-lines of molybdenum PR **23** 1924 550-1 [dsb]
- Van Vleck The absorption of radiation by multiple.. PR **24** 1924 330-365 [dsb18 p956]
- Richtmyer The apparent shape of X-ray lines PR **26** 1925 724-735 [dsb]
Allison & Duane Experiments on the Wave-lengths.. PR 26 1925 300-309 [dsb17]

Taylor & Hulbert. The propagation of radio waves over the earth. PR **27** 1926 213-5 [stroke 1099]

Van Vleck, JH. Quantum theory of the specific heat.. Physical rev. **28** 1926 980-1021 [nobwho]
Schroedinger, E. Undulatory Theory of the Mechanics of Atoms and Molecules. Dec 1926
(Ptak, issue number at \$750)

RA Millikan & GH Cameron High frequency rays of cosmic origin. PR **28** 1926 851-868
[stroke573]

Breit & Tuve A test of the existence of the conducting layer PR **28** 554-6, 575 1926 [stroke 1099]

II RABI. The Principal Magnetic... Phys. Rev. **29**, 1927, 174-85 [nobwho]
Van Vleck, JH Dielectric constants.. Phys. Rev. **29** 1927 727-44; **30** 1927 31-54; **31** 1928 587-613;
33 1929 467-506 [nobwho/dsb18 p956]
Richtmyer Dependence of photoelectric current.. PR **29** 1909 71-8, 404-8 [dsb]

Davisson Diffraction of electrons by a crystal of nickel PR **30** 1927 705-740 [dsb] – full report
corresponding to Nature article April 1927 – link. See also vol. 22

Oppenheimer On the Quantum Theory PR **31** 1928 349-356 [DSB 10 218a]
Herzfeld & Rice Dispersion and absorption of high frequency sound waves PR **31** 1928 691-5
[biog]
RH George An Improved Form of Cathode Ray Oscilloscope. PR **31** 1928 p 303 [TV p 295]

RS Millikan. The assignment of quantum numbers Phys. Rev. **32** 1928 186-222, 761-72
[nobwho]
Johnson, JB. Thermal agitation of electricity in conductors. PR **32** 1928 97-109 [stroke1099]

Van Vleck, JH On sigma type doubling and electron spin in the spectra of diatomic molecules
PR **33** 467-506 [cit]

Richtmyer & Richtmyer Satellites of X-ray.. PR **34** 1929 574-581 [dsb]
JC Slater Phys Rev **34** 1929 p 1293 [referred to by Born, Nature 126 1930 p 205 as imp]
Morse Diatomic molecules.. PR **34** 1929 57-64 [stroke/cit]
Slater The theory of complex spectra PR **34** 1293-1322 1929 [stroke]
Birge PR 34 p 376 [dsb 17 tog with nature vol 124] see also pr vol 37
Goudsmit & Bacher Separations in hyperfine structure PR **34** 1929 1501-6 [dsb17 p367]
Tonks L & Langmuir I A general theory of the plasma of an arc PR **34** 1929 876-922 [cit]

AH Compton Determination of scattered x-rays PR **35** 1930 925-938 [dsb]
JR Oppenheimer On the Theory of Electrons and Protons PR **35** 1930 461-477, 562-3 [DSB 10
218a/tic 79/biog]
Allison & Williams The resolving power of calcite for X-rays.. PR 35 1930 1476-1490 [dsb17]
JC Slater Note on Hartree's method. PR **35** 210-211 1930 [stroke 615]

Richtmyer Hyperfine structure of x-ray lines PR **36** 1930 1017, 1044-49 [dsb]
LR Koller Photoelectric Emission from Thin Films of Caesium. PR 36 1930 p 1639-47 [TV p
302]

L. Onsager. Reciprocal relations in irreversible Phys. Rev. **37** 1931 405-26 [nobwho/dsb18]
also vol 38

Allison et al Evidence of the detection of element 85.. PR **37** 1178-80 1931
Ehrenfest & Oppenheimer PR **37** 1931 333-8 [DSB 218a]
Einstein Knowledge of past and future PR **37** 1931 780-1 [weil *178]
Birge & Babcock Precision determination of the mass ratio og Oxygen 18... PR **37** 1931 233
[dsb17]
Goudsmit Theory of hyperfine structures PR **37** 1931 663-81 [dsb17]

Physical Review 37 1698 1931 [blackwood – carl]

L Onsager. Reciprocal relations in irreversible.. Phys Rev. **38** 1931 2265-79 [nobwho/stroke 369] also vol 37

Van der Graaff A 1500,000 volt electrostatic generator PR **38** 1931 1919-20 [stroke241]

Breit & Rabi Measurement of nuclear spin. PR **38** 1931 2082-3L [stroke]

Urey & Bradley. On the relative abundance of isotopes PR **38** 1931 718-724 [dsb18 p946]

Bush, V & Caldwell, SH. Thomas-Fermi Equation Solution by the Differential Analyser. PR 38 no. 10 1931 pp. 1898-1902. [cor p. 123]

Urey et al A hydrogen isotope of mass.. PR 1932 **39**, 164, 864 [part933/dsb 14 182b/dsb18 p946/scientia cat 35/biog] imp, nobel, tog with vol 40

Urey, Brickwedde & Murphrey A hydrogen isotope of mass 2.. PR **40** 1932 1-15, 464-65, 889-90 [dsb18 p 946cryo p489/urey in biog] tog with 39. imp

Lawrence & Livingston The production of high speed light ions.. Phys Rev 1932 **40** 19 [part954/Scientia cat 35/strokep241]

Physical Review 40 1034 1932 [blackwood – carl]

CD Anderson. Space distribution of X-ray photoelectrons ejected.. Phys. Rev. **41** aug. 15 1932, 405-21 [nobwho/biog]

Swann Electrons as cosmic rays PR **41** no.4 15Aug 1932 540-542 [dsb] see also vol. 43, 46, 48.

EO Lawrence. Disintegration of Lithium.. Physical Rev. **42**, 1932, 150-1 [nobwho]part954

CD Anderson. The Positive Electron. The Physical Review, 1933, **43**, 491-4 nobwho /maddoxp386/part932/stroke573/tic 118, 170/biog] **[in original wraps, \$1000 Norman; \$950 Thompson]**

CD Anderson Energy loss and scattering of cosmic-ray particles PR **43** 1933 381 [biog]

CD Anderson. Positrons from gamma rays. PR **43** 1933 1034 [biog]

Newson Phys Rev 1933 **43** 208 [part966]

Ladenburg The continuous absorption of oxygen.. PR **43** 1933 315-321 [dsb]

Swann On the nature of primary cosmic radiation.. PR **43** no 11 1 June 1933 [dsb] see also vols 41, 46, 48

Richtmyer & Barnes Determination of the shape, wavelength, PR **43** 1933 754 [dsb]

G Lemaitre & MS Vallarta On Compton's latitude effect of cosmic radiation PR **43** 87-91 1933 [stroke 573]

L Alvarez and AH Compton A positively charged component of cosmic rays PR **43** 1933 835-6 [stroke573]

E Wigner & F Seitz On the constitution of metallic sodium PR **43** 1933 804-810 [stroke615]

AH Compton A geographic study of cosmic rays PR **43** 1933 387-403, 835-6 [stroke573/dsb]

Giauque & MacDougall Attainment of temperatures below 1 degree... PR **43** 1933 768 [biog]

Goudsmit Nuclear magnetic moments PR **43** 1933 636-9 [dsb17]

Mayer & Mayer The polarizability of Ions from Spectra PR 43 1933 605-611 [dsb 18 p611]
nobel

RJ Van de Graaf et al The electrostatic production... PR 43 1933 149-157 [electrostatic machines – disc file 2]

CD Anderson. Phys. Rev. **44**, sept. 1 1933, 406-16 [nobwho]

Richtmyer & Hirsh Relative intensities of certin series.. PR **44** 1933 955-960 [dsb]

II RABI. Nuclear Spin in Isotopic.. Phys. Rev. **45**, 1934, 334 [nobwho]

WH Bennett Magnetically self-focussing streams. PR **45** 1934 890-897 [stroke p721]

CD Anderson, RA Millikan et al The mechanism of cosmic ray counter action PR **45** 1934 342 ?352-63 [biog/nobwho]

CD Anderson & SH Neddermeyer Energy spectra of positrons ejected by artificially stimulated radioactive substances. PR **45** 1934 498 [biog]
Oppenheimer & Furry On the theory of the electron and positive. PR **45** 1934 245-262, 343-344 [biog]

CD Anderson Disintegrations with positron ejection PR **46** 1934 322 [biog]
Swann The relation of the primary cosmic radiation .. PR **46** no 9 1 Nov 1934 828-9 [dsb] see also vols 41, 43, 48, 52, 56
Richtmyer Barnes Ramberg The widths of the L-series lines.. PR **46** 1934 843-860 [dsb]
Mayer & Herzfeld On the theory of fusion. PR **46** 1934 995-1001 [dsb18]nobel
Vernov. On the study of cosmic rays PR **46** 1934 822 [dsb18 p963]

Einstein et al Can quantum mechanical description of physical reality be considered complete? The Physical Review **47** May 15 1935 No. 10 p. 777-780- see Nature June 22 1935 in plastic file/q cat 1232 p.17 - £250 for number/stroke1205 [weil *195]
EO Lawrence. Phys. Rev. Jan 1 1935 - see Nature March 16 1935 440
Oppenheimer PR **47** 1935 44-52 [DSB 10 218a]
Latimer long & Libby The Action of Neutrons on Heavy Water PR **47** 1935 424

Niels Bohr. Can Quantum Mechanical Description of Physical Reality be Complete. PR **48**, 1935 pp696-702. [ptak \$300/stroke 1205]
Swann The corpuscular Theory of primary cosmic radiation PR **48** 15 Oct 1935 641-648 [dsb] see also vols 41 43 46, 52, 56.
Einstein The particle problem PR **48** 1935 73-77 [weil 196]
Mayer Double beta-disintegration PR **48** 1935 512-6 [dsb18] nobel

Gamow & Teller Selection rules for the beta disintegration PR **49** 1936 895-899 [dsb]
Einstein Two-body problem in general relativity PR **49** 198 404-5 [weil 198]
G Breit & E Wigner Capture of slow neutrons PR **49** 1936 519-531 [stroke 241]
Mayer & Herzfeld On the theory of dispersion PR **49** 1936 332-9 [dsb18 p611] nobel
LC van Atta et al The design, operation and performance of the Round Hill electrostatic generator. PR **49** 1936 761-776 [largest open air electrostatic generator ever built - electrostatic machines, disc file II

CD Anderson & SH Neddermeyer Cloud chamber observations of cosmic rays at 4300 meters.. PR **50** 1936 263 [biog]
Goudsmit et al Diffusion of slow neutrons PR **50** 1936 461-3 [dsb17]

Oppenheimer & Carlson PR **51** 1937 220-231 [DSB 10 218a]
Oppenheimer & Serber Note on the nature of the cosmic-ray particles PR **51** 1937 1113 [tic32]
Langmuir & Blodgett Built-up Films of Barium Stearate and.. PR **51** 964 1937 [20th C Women Physicists file]
Richtmyer Shaw Shrader L-satellites in the atomic number.. PR **51** 1936 [dsb]
Neddermeyer & CD Anderson. Notes on the nature of cosmic-ray particles. PR **51** 1937 884-6 [tic29, 104, 153, 170, 220]disc muon
JC Street & EC Stevenson Penetrating corpuscular component of the cosmic radiation. PR **51** 1937 1005 (abstract) [tic 104, 220] disc of meson
Zwicky F. Nebulae as Gravitational; lens PR **51** 1937 290 [tim]

Cherenkov Visible radiation produced by electrons... Phys. Rev. 1937, **52**, 378-9 [nobwho]
Ladenburg On the Neutrons from the Deuteron.. PR **52** 1937 911-918 [dsb]
Swann The Electrodynamic Force Equation in its bearing upon evidence for cosmic ray.. PR **52** no. 5 1 sept 1937 387-390 [dsb] see other vols
Richtmyer Parratt Determination of widths of energy states PR **52** 1937 678-9 [dsb]
Stueckelberg. On the existence of heavy electrons. PR **52** 1937 41-2 [tic32]
F. Bloch & A Nordsieck Note on the radiation field of the electron. PR **52** 1937 54-9 [tic80]

Y Nishina et al. On the Nature of Cosmic-Ray Particles. PR **52** 1937 1198-9 [tic105] disc of meson

II Rabi. A New Method of Measuring Nuclear Magnetic.. Phys. Rev. **53**, 1938, 318
[nobwho/stroke]

Gamow Nuclear Energy Sources and Stellar Evolution PR **53** 1938 595-604 [dsb]

Gamow & Teller On the Origin of Great Nebulae PR **53** 1939 654-657, other :719 [dsb]

Tamm The transmutation of the cosmic ray electrons PR **53** 1938 1016-7 [dsb]

L Onsager. Initial recombination of ions. Phy. Rev. **54** 1938 554-57 [dsb18 p695]

Brickwedde et al PR **54** 1938 266 [cryo p488]

CD Anderson & SH Neddermeyer Cosmic ray particles of intermediate mass PR **54** 1938 88
[biog]

JR Oppenheimer & R Serber PR **54** 1938 p 540 [sub p 295]

H. Bethe Energy Production in stars Phys. Rev. **55** pp 434-446 [ptak \$500/disc file/stroke241]

II Rabi et al. The molecular beam resonance... Phys. Rev. **55** 1939 526-35

[nobwho/stroke1099/land p97]

WF Libby. Stability of Uranium and Thorium.. Physical Review **55** 1939 1269 [nobwho]

Bohr PR 1939 **55** 418 [part966]

Oppenheimer & Volkoff On massive Neutron cores. PR **55** 1937 374-381 [DSB 10 218a/sub p 295/ast/tim]

Blodgett Use of Interference to Extinguish Reflection of Light from Glass PR **55** 391 1939 [20th C Women Physicists File} ok - optical lense filters from here

Kellog et al An electrical quadrupole moment.. PR **55** 1939 318-9L [stroke]

WH Furry, Jones, Onsager On the theory of isotope separation by thermal diffusion.. PR **55** 1939 1083-1095 [dsb 18 p695]

RC Tolman PR **55** 1939 364 [sub p 296]

Oppenheimer JR & Snyder On continued gravitational contraction PR **56** 1939 455-9 [tim]

RA Millikan. Electronic states of diatomic carbon.. Phys. Rev. **56** 1939, 778-81 [nobwho]

Bohr & Wheeler The mechanism of nuclear fission PR **56** 1939 426-450 [dsb/stroke 241]

Landenburg et al Study of uranium fission.. PR **56** 1939 168-170 [dsb]

Swann Showers produced by penetrating rays.. PR **56** no 4 15 aug 1939 378 [dsb] see other vols.

Oppenheimer & Snyder PR **56** 1939 p 455 [davies p. 112/sub p 295] imp

Kellogg, JMB et al. The magnetic moment of the proton and the deuteron. PR **56** 1939 728 [tim]

Mattauch PR 1940 **57** 1155 etc' [part933]

II Rabi, Kusch, Milliman. The Radiofrequency Spectra of atoms. Phys. Rev. **57**, 1940, 765-80.
[nobwho]

McMillan E & Abelson Radioactive Element 93 PR **57** 1940 pp 1185-6 [scientia cat 35]

Sakata & Tanikawa The spontaneous disintegration of the neutral mesotron PR **57** 1940 548
[tic32]

Goudsmit Multiple scattering of electrons PR **57** 1940 24-9: 58 1940 36-42 [dsb17]

L. Marton A New Electron Microscope. Phys Rev **58** no. 1 July 1940 pp57-60 [early electron microscope]

Gamow & Schoenberg The possible role of neutrinos PR **58** 1940 117 [dsb]

N. Bohr. Deuteron-induced fission. Phys, Tev **59** no 12 1042-3 June 15 1941

Gamow & Schoenberg Neutrino theory of stellar Collapse PR **59** 1941 539-547 [dsb]

Sherr et al PR 1941 **60** 473 [part955]

Meitner Resonance Energy of the Th Capture Process PR **60** 1941 58 [DSB 9 263b]

Ladenburg Mass of the Meson PR 60 1941 754-761 [dsb]

Mayer Rare Earth and transuranic elements PR **60** 1941 184-7 [dsb18] nobel
Pomeranchuk On the thermal conductivity of dielectrics PR **60** no. 11 1941 820-1 [dsb18]

RA Millikan et al. Origin of cosmic rays Physical Review **61** 397 & 407 1942 [Nature]
Ladenburg Elastic and inelastic scattering.. PR **61** 1942 129-138 [dsb]
Racah Theory of complex spectra PR **61** 1942 186-197 [stroke]

Onsager L Anisotropic solutions of colloids PR **62** 558A 1942 [stroke 369]
Onsager L Crystal statistics. PR **62** 559A 1942 [stroke 369]

Onsager Crystal statistics I A two-dimensional model.. PR 65 1944 117-149 [dsb18 p694]

The Physical Review, ?1945 [PM422]
E McMillan. The Synchrotron – Phys. Rev **68** 1945 143-4 [nobwho]
L Onsager The distribution of energy in turbulence. PR 68 286A 1945 [stroke369/dsb18 p695]

G. Herzberg. The electronic structure of the Nitrogen molecule. Phys. Rev. **69** 1946 362-65
[nobwho]
Purcell EM. Spontaneous emission probabilities at radio frequencies PR **69** 681 1946 (Nature
art - discoveries file)
Purcell EM et al Resonance absorption by nuclear magnetic... PR **69** 1946 37-8 L [cryo
p425/stroke1099] see also Bloch:
Bloch F et al Nuclear induction. PR **69** 1946 127L [cryo p425/stroke 1099]
Van der Graaff Experiments on the elastic single scattering PR **69** 1946 452-9 [dsb]
GT Seaborg et al Radioactive element 94 PR **69** 366 367 [biog]
Stephens W Time of flight ms PR **69** 1946 p 691 [msp]

Bloch. Nuclear induction. Physical Rev. **70** 1946 460-74 [nobwho/stroke615]
Shull, CG. Determination of X-ray diffraction.. Phys. Rev. **70**, 1946, 679 [nobwho]
Gamow, G. Evolution of the universe. Phys. Rev. **70** 572 1946 {link to Nature/disc file}
Van de Graaff Calorimetric experiment PR **70** 1946 174-7 [dsb]
Collins SC PR **70** 1946 98 [cryo p453]
Wigner Resonance reactions PR **70** 1946 606-618 [stroke 241]
Dicke et al Atmospheric absorption measurements with a microwave radiometer. PR 70 1946
340-348 [stroke491]
Bloch et al The nuclear induction experiment (Abstract) PR **70** 474 1946 [stroke 615]
Seaborg et al Properties of 94 (239) PR **70** 1946 555 [biog]

m Conversi et al On the disintegration of negative mesons. PR **71** 1947 209-210L 557E [stroke
p799]
J Bardeen PR 71 1947 717 [land p 153]

Lamb, WE & Rutherford. Fine structure of the hydrogen atom... Phys. Rev. **72** 1947 p241-3
[nobwho/stroke/q cat 1232 p28 at £200 for number/tic 80, 350/land p119]nobel
Shockley & Brattain. Density of surface states... Phys. Rev. **72** 1947 345 [nobwho/land p 153]
Van de Graaff Further experiments PR **72** 1947 678-679 [dsb]
Kusch & Foley Precision measurement of the ratio of the atomic.. PR **72** 1256-7 1947
[stroke/land p. 134] also vol. **73**, 1948 p 412; **74** 250 1948
Breit Does the electron have.. PR **72** 1947 984 [stroke]
HA Bethe The electromagnetic shift of energy levels PR **72** 1947 339-341 [stroke 933]

Purcell, Bloembergen & Pound. Relaxation effects... Physical Review **73** 1948 679-712
[nobwho]
Alpher Bethe Gamow The Origin of Chemical Elements PR 1948 **73** 803-4 [dsb/disc file/tim]
Ladenburg Interferometric.. PR **73** 1948 1359-1377; **76** 1949 662-677 [dsb]
Casimir & Polder The influence of retardation.. PR **73** 360-72 1948 [stroke]

- Schwinger On quantum-electrodynamics.. PR **73** 416-7 1948 [stroke]
Bloembergen et al Relaxation effects in nuclear magnetic resonance.. PR **73** 1948 679 [stroke 615]
Lewis, Oppenheimer & Wouthuysen The multiple production of mesons. PR **73** 1948 127-40 [tic 32]
Teller, E On the Change of Physical constants. PR **73** 1948 801 [bertotp92]
- Bardeen J and W Brattain. The Transistor, a semi-conductor Triode. Phys. Rev. **74** no. 2, p.230-31. [19Cp6; Q cat 1232 p2, part of £700 for part/stroke615land p 153]
WH Brattain & J. Bardeen. Nature of the Forward Current..[?the Transistor?] Phys. Rev., **74**, 1948, 231-32-3 [nobwho]
Shockley, William G pearson. Modulation of conductance of thin films..p 232-33
Gamow G The origin of elements and the separation of galaxies. PR **74** 1948 505-6 [stroke 491/cos]
Kusch & Foley. The magnetic moment of the electron. Phys. Rev. **74** 1948 250-63
[nobwho/stroke/land p 134] see also vols 72, 73
Feynman Relativistic Cut-off for Quantum..Physical Review, 1948, Nov. 15, Vol **74**, number 10 pp. 1430-38, 1439-61 [q cat 1232 p19 Original number at £250, together with Schwinger, JS. Quantum Electrodynamics. Physical Rev. **74** 1948 39-61 [nobwho/Quaritch cat 1232 1249see Feynman]
Reines, F. Neutron spectra from proton.. Phys. Rev., **74**, 1948, 1565 [nobwho]
L Onsager & Robinson. De Haas-van Alphen.. Phys. Rev. **74** 1948 1235 [nobwho]
PS Freier, Lofgren, Ney, Oppenheimer Primary Cosmic Radiation PR **74** 1818-1827 1948 [wpc]
Mayer On closed shells in nuclei PR **74** 235 1948 [wpc/stroke241/dsb18p611] also vol 75nobel
Van de Graaff Thick-target X-ray production.. PR **74** 1948 1348-1352
The Physical Review, April 15, 1949 [19Cp6]
Goudsmit SA A Time-of-flight mass spectrometer PT **74** 1948 p622-3 [msp]
[Vol **74 + 75 - \$1950**, Michael Thompson]
- Kusch & Taub. The magnetic moment.. Phys Rev. **75** 1949 1481-92 [nobwho]
Lamb, WE & Rutherford. Formation of metastable hydrogen atom... Phys. Rev.**75** 1949 1332 [nobwho]
Bardeen & Brattain. Physical Principles Involved in Transistor.. Phys. Rev. **75** 1949, 1208-25 [nobwho/land p153]
Shockley & Haynes. Investigation of Hole Injection in transistor Action. Phys. Rev. **75**, 1949, 691 [nobwho]
Lee Yang rosenbluth Interactions of Mesons with Nucleons Phys. Rev. **75** 1949, 905 [nobwho]
Richard Feynmann. Theory of Positrons. Sept 1949 [ptak at \$500]
Alpher & Herman Remarks on the evolution of the expanding universePR **75** 1089 1949 [disc file/cos]
Mayer On closed shells in nuclei II PR **75** 1969 1949 [wpc/dsb18 p611] also vol 74 nobel
Van de Graaff Secondary emission.. PR **75** 1949 44-5 [dsb]
Haxel et al On the magic numbers in nuclear structure.. PR **75** 1949 1766 [stroke 241]
Dyson FJ The radiation theories of Tomonaga,.. PR **75** 1949 486-502 [stroke 933]
R Hofstader Gamma ray detection.. PR **75** 1949 796-810 [biog] see also vols 78&80
- Purcell & Gardner. A precise determination of.. Physical Rev. **76**, 1949, 1262-3 [nobwho]
PW Anderson. The limits of Validity of.. Phys. Rev **76** 1949 471 [nobwho]
Ramsey, NF. A New Molecular Beam Phys. Rev. **76** 1949 996 [nobwho]
Shull & Smart Detection of antiferromagnetism by neutron diffraction PR **76** 1256-7 1949 [stroke615]
Feynmann RP Space-time approach to quantum.. PR **76** 1949 769-789 [stroke 933]
Mayer & Teller On the origin of the elements PR **76** 1949 1226-1231 [dsb18] nobel
Hipple JA et al A precise method of determining the Faraday.. PR **76** 1949 p1877-8 [msp]
- Seaborg GT et al Element 97 PR **77** 1950 838-9 [biog]

Lamb, WE & M. Skinner, M. Fine structure of singly ionised.. Phys. Rev. **78**, 1950, 539-50 [nobwho]
Ramsey, NF. A molecular-beam.. Phys. Rev. **78**, 1950 695 [npbwho]
Mayer, MG. Nuclear configurations... Phys. Rev. series 2 **78** 1950 16-21, 22-23 [nobwho/wpc/dsb18 p611] nobel
Steinberger et al Evidence for the production of neutral mesons.. PR **78** 1950 802-5 [stroke 799/tic32]
R Hofstader Gamma ray detection.. PR **78** 1949 617-9 [biog] see also vols 75&80
Seaborg et al Element 98 PR **78** 1950 298-99, 472 [biog]
Bardeen & Brattain The transistor – a smiconductor triode PR **74** 1948 230 [see Shockley in biog]first semiconductor amplifier

Yang & Tiomno. Reflection properties of spin.. Phys. Rev. **79**, 1950, 495-98 [nobwho]
LJ Rainwater. Nuclear energy level argument.. Phys. Rev **79** 1950 432-4
H Frohlich PR **79** 1950 845 [dsb 8 p479a]
Lippmann & Schwinger Variation principles for scattering processes PR **79** 469-480 1950 [stroke]
Lamb & Retherford Fine structure of the hydrogen atom. PR **79** 1950 549 [stroke/land p119] also vols 85 259 1952; 86 1014 1952, 89, 98, 106.

Feynmann RP Mathematical formulation of the quantum theory.. PR **80** 1950 440-457 [stroke 933] See J Weber cat 143.
R Hofstader Gamma ray detection.. PR **80** 1949 131 [biog] see also vols 78&75
Urey HC The structure and chemical composition of Mars PR **80** 1950 295 [et 462]

Purcell & Pound/Slater/ Herring & Kittel/Kikuchi
Shockley & Haynes. The mobility and life of injected holes.. Phys. Rev. **81** 1951 835-43 [nobwho]
A Bohr. On the Quantization of Angular.. Physical Rev. **81** 1951 134-8 [nobwho]
A Bohr. Nuclear magnetic moments.... Physical Rev. **81** 1951 331-58 [nobwho]
Shull, CG. Highly polarised neutron beams.. Phys. Rev. **81**, 1951, 626 [nobwho]
Panofsky et al The gamma-ray spectrum.. PR **81** 1951 565-574 [stroke 799]
Hahn, EL. Spin echoes PR **80** 1950 580-594 [stroke 1099]

Schwinger, JS. On gauge invariance and.. Phys. Rev. **82** 1951 664-79 [nobwho]
Deutsch M Evidence for the formation of positronium PR **82** 455-456 1951 [stroke]

Shockley et al/ Chamberlain et al/Friedman et al/Bloch/Holstein/Simpson **83**
Caleen & Welton Irreversibility and generalized noise. PR **83** 34-40 1951 [stroke369]
Durbin et al The spin of the pion PR **83** 646-8 1951 [stroke799]

Goudsmit et al Mass measurements with a magnetic time-of-flight mass spec. PR **84** 1951 824-9 [dsb17/msp]

Bohm x2/Pines & Bohm/Yang/Anderson et al/Bethe & Butler/Deutsch & Brown
Purcel & Ramsey Interactions between Nuclear spins Phys. Rev. **85** 1952 143-4 [nobwho]
Jensen, JHD & Goeppert-Meyer. Electromagnetic effects Due to Spin-Orbit Coupling. Phys. Rev. **85**, 1952, 1040
HL Anderson, E Fermi et al Total cross sections of positive pions.. PR **85** 1952 936L [stroke 799]
Bohm, D. A suggested interpretation of the quantum theory PR **85** 1952 166-179 [stroke 1205]
Mayer & Jensen Electromagnetic effects due to spin-orbit... PR **85** 1952 1040-1 [dsb18 p611] nobel

PW Anderson A Approximate Quantum.. Physic Rev. **86** 1952 694 [nobwho]

R Davis Jr. Nuclear recoil following neutrino emission.. PR 86 976 1952 [biog file] nobel early paper

Vol. 87

Breit et al/Hauser & Feshbach/Allis & Brown

Shockley & Read Statistics of the Recombinations.. Phys. Rev. 87 1952 835-42 [nobwho]

Glaser, DA. Some effects of Ionizing Radiation on the formation of bubbles.. Phys. Rev. 87

1952 665. [nobwho/cryo p 401] also vol 91 bubble chamber

Yang & Lee Statistical theory of equations of state.. PR 87 1952 404-9 [stroke369]

Urey The Abundance of the Elements PR 88 1952 248-252 [dsb18 p946]

Wick, G et al The Intrinsic Parity of Elementary particles PR 88 1952 101-5 [tim]

Einstein A comment on a criticism of unified field theory PR 89 1953 321 [weil 230]

Spitzer & Harm Transport phenomena.. PR 89 1953 977-981 [stroke 721]

Reines. A proposed experiment to detect... Phys. Rev. 90, 1953, 492 [nobwho]

Vol. 91

Glaser PR 91 1953 p 762 see vol 87

/Hawkins & Dicke/Fowler et al/Feynmann/Alder & Winther

L Onsager & Machlup. Fluctuations and irreversible.. Phys. Rev. 91 1953 1505-12

[nobwho/dsb18 p695]

Feynmann, RP PR 91 1953/4 1291, 1301; 94, 1954/5, 262 [cryo p500]

Johnson EG & Nier AO Angular aberrations insector-shaped electromagnetic lenses.. PR 1953
91 p 10-17 [msp]

Vol. 92

Overhauser/Bohm & Pines/Pines/Fitch & Rainwater/Hofstadter et al/de Shaht &
Goldhaber/Alpher et al

M. Gell-Mann. Isotopic spin.. Phys. Rev. 92 1953 833 [nobwho]

Reines. Detection of the free neutrino. Phys. Rev. 92, 1953, 830.

Alpher et al Physical conditions in the initial stages of the expanding universe. PR 92 1347-
1361 1953 [disc file/cos]

Hofstadter et al High energy electron scattering.. PR 92 1953 978-987 [stroke241]

Vol. 93

Dicke/Gugelot/ McClelland/Placzek & Van Hove

Dicke RH Coherence in spontaneous radiation process (Nature - discoveries file/stroke)

CH Townes, Gordon & Zeiger. Molecular Microwave Oscillator and New Hyperfine.. Phys.
Rev. series 2 95 1954 pp. 282-4 [nobwho]

Fowler et al Production of heavy unstable particles.. PR 93 1954 861-7 [stroke 799]

Vol. 94

Feynmann, RP PR(91 1953/4 1291, 1301); 94, 1954/5, 262 [cryo p500]

RH Dalitz Decay of tau mesons of known charge PR 94 1954 1046-51 [tic 257]

Vol. 95

Gordon et al Molecular microwave oscillator PR 95 1954 282-284 [stroke/land p 228]
laser/maser see also vol 99

Vol. 96

Ruderman & Kittel/Hagstrumx2/

Feshbach et al Model for nuclear reactions PR 96 1954 448-464 [stroke241]

Yang & Mills Conservation of isotopic spin PR 96 191-195 1954 [stroke 933]

Vol. 97

Glaser & Rahm Characteristics of bubble chambers. Phys. Rev. **97** 1955 474-79. [nobwho]
Meredith Gottlieb & Van Allen Direct detection of soft radiation.. PR **97** 201-5 1955 [mag]
M Gell-Mann & Pais, A. Behaviour of neutral particles under charge., PR **97** 1955 1387-1389
[stroke 933]
R Davis Jr An attempt to detect the anti-neutrons from a nuclear reactor.. PR **97** 1955 766 [biog
file] nobel early paper

Vol. 98

Brockhouse, BN. Slow neutron spectrometry - a new tool Phys. Rev. **98** 1955 1171 [nobwho]
Brueckner et al High energy reactions and the.. PR **98** 1955 1445-1455 [stroke 241]
Hofstadter & McAllister Electron scattering from the proton. PR **98** 1955 217-8L [stroke 799]

Vol. 99

Brockhouse, BN. Energy distribution of Neutrons.. Phys. Rev. **99** 1955 601-3, 1264 [nobwho]
Gordon JP et al. The maser - New type of microwave amplifier,.. PR **99** 1955 1264-1274 [land
p 228]

Vol. 100

Autler & Townes
O. Chamberlain et al. Observations of Antiprotons. Phys. Rev., **100**, 1955, 947-50
[nobwho/stroke 799]

Vol. 101

Schumacher & Schlichter/Siegel & Wiener/Behrends et al/Ekstein/Herring & Vogt
O. Chamberlain et al. Antiproton star observed. Phys. Rev. **101**, 1956, 909-10 [nobwho]
Hahn, Hofstadter, & Ravenhall. High-Energy Electron Scattering.. Phys. Rev **101** 1956 1131
[nobwho]/beau p269

Vol 102

Glaser Rahm & Dodd. Bubble counting for..Phys. Rev. **102** 1956 1653 [nobwho]
O. Chamberlain et al. Example of an antiproton nucleon.. Phys. Rev. **102** 1956: 921-3
[nobwho/stroke799]
Lee & Yang. Mass degeneracy of the heavy mesons. Phys. Rev. **102** 1956 290-1 [nobwho]
Bloch. Dynamical theory... Physical review **102** 1956 104-35 [nobwho]

Vol 103

Lamb, WE & Sanders, TM. Fine structure of n-3 hydrogen.. Phys. Rev. **103**, 1956, 313-4
[nobwho]
Lande et al Observation of long-lived neutral V particles PR **103** 1956 1901-1904L [stroke 799]

Vol. 104

Lee & Yang. Question of Parity Conservation Physical review **104** 1956 254-8
[nobwho/stroke933]
N. Bloembergen. Proposal for a new type solid-state.. Phys. Rev. **104**, 1956 324-7
[nobwho/Qp4cat1232 - £200 for number/stroke 1100]Nobel
Bostick Experimental study of ionised matter... PR **104** 292-9 1956 [mag]
Penrose O & Onsager L. Bose-Einstein condensation and liquid helium. PR **104** 576-584
[stroke369/dsb18 p695]
LN Cooper Bound electron pairs.. PR **104** 1189-1190 1956 [stroke615]
B Cork et al. Antineutrons produced from.. PR **104** 1956 1193-1197L [stroke 800]

Vol. 105

Wu, CS, Ambler, E Hayward, RW, Hoppes DD and Hudson RP Experimental test of parity
conservation in beta decay PR **105** 1957 1413-4 [cryo p 81, 345, 509 classic
expt/stroke241/land p 177]

Biot/Wu & Howard/Garwin et al/
Friedman & Telegdi PR105 1957 1681 [land p177]
Lee & Yang. Parity Nonconservation and.. Phys. Rev. **105**, 1957, 1671-75 [nobwho/stroke 933]
LW Alvarez. Catalysis of Nuclear.. Phys. Rev. **105** 1957 1127 [nobwho]
Garwin et al Observations of the failure of conservation.. PR 105 1957 1415-1417 L [stroke
800/land p 177]

Vol. 106

Gell-Man & Bruekner/Jaynes/Yosida/Stix/Baranger & Gerjuoy
Lee & Yang. Remarks on possible noninvariance.. Physical review 106 1957 340-5 [nobwho]
Bardeen, Cooper, &, Schrieffer Microscopic Theory of Super conductivity Phys. Rev. 106 1957
162 [nobwho/dsb 8 p479b/stroke615]
Bostick Experimental study of plasmoids PR 106 404-412 1957 [mag]

Vol 107

Rosenbluth et al Fokker-Planck equation.. PR **107** 1957 1-6 [stroke 721]

Vol. 108

Griffin & Wheeler/Bernstein et al/Regge & Wheeler/Bohm & Aharonov/Palevsky
John Bardeen, LN Cooper, Schrieffer. Theory of superconductivity Phys. Rev. 108 1957 1175-
204 [nobwho/Q cat 1232 p2, £350 for number/cryo p41, 266, 278, 431/stroke615] fundamental
theory
Winckler & Peterson Large auroral effect on cosmic ray detectors PR 108 903-4 1957 [mag]
Palevsky et al Excitation of rotons in he II by cold neutrons PR 108 1957 1346-7 [stroke369]

Vol. 109

Bernstein/Feynman & Gell-Mann/Ramsey/Salecker & Wigner/Goldhaber et al
Dehmelt, HG. Spin Resonance of Free Electrons Polarized by Exchange.., Phys. Rev. 109,
1958, 381-5 [nobwho/stroke]
Swann Mass-energy relation in Quantum theory PR 109 no. 3 feb 1958 998-1008 [dsb]
Esaki New phenomemon in Narrow Germanium PR 109 no. 2 603-4 [Q cat 1232 number at
£120/stroke615] nobel
PW Anderson Absence of diffusion in certain random lattices PR **109** 1492-1505 1958
[stroke615]

Vol. 110

Winckler & Peterson et al X rays from visible aurorae PR **110** 1221-1231 1958 [mag] tog with
vol 108?
Segre et al. Proton and anti-proton Elastic and charge exchange.. Phys. Rev. **110** 1958 994-5
PW Anderson. New Method in the Theory of Superconductivity. Phys. Rev. **110** 1958 985
[nobwho]

Vol. 112

Fite & Brackman/Pekeris
LW Alvarez, Crawford, Stevenson. Elastic scattering of 1.6... Phys. Rev. **112** 1958 1267
[nobwho]
Schawlow, AL. & Townes Infrared and optical masers Phys. Rev. **112** 1958 1940-1949
[nobwho/q cat 1232 p40/stroke1100/land p. 228/j weber cat 55 with Nature aug 6 1961 and
Physical Review Letters vol 4 no. 11 at \$2250]

Vol. 113

Reines & Cowan Free antineutrino absorption.. PR **113** 1959 273-9 [stroke 800]

PAM Dirac Fixation of coordinates in the Hamiltonian theory of gravitation. PR **114** 1959 924-
930 [stroke491]

PW Anderson. New approach to the theory of Phys. Rev. **115** 1959 2-13 [nobwho]
Y Aharonov & D Bohm. Significance of electromagnetic potentials.. PR **115** 1959 485-491
[stroke 1205]

vol. 117

Northrop Stability of the adiabatic motion.. PR **117** 215-225 1960 [mag]
F. Reines et al PR **117** 159 1960 [land p 209]

MD Kruskal PR **119** 1960 1743 [sub p 294]

vol. 123

TH Maiman et al PR 123 1961 1151 [land p 229] laser

C Brans & RH Dicke Mach's principle and a relativistic theory of gravitation. Physical Review, vol. **124**, 1961, pp. 925-935 [maddox p 389/stroke491]

M Gell-Mann. Symmetries of baryons and mesons. PR **125** 1962 1067-84 [stroke 933]

Schwinger. Gauge invariance and mass. Physical Rev. **128** 1962 2425 [nobwho]

J. Steinberger. Resonances in strange- Phys Rev. **128** 1962 1930 [nobwho]

London, Clarke & Mendoza PR **128** 1962 1992 [cryo p81]

Glauber The quantum theory of optical coherence PR **130** 1963 2529-2539 [stroke]

AM Cormack. & Shapiro & Koehler. Measurements of cross sections with neutrons., Phys. Rev. **138** 1965 823-30 [nobwho -med/physiol]

Fitch. The K+ decay.. Phys. Rev. **140B** 1965 1088-91 [nobwho]

Ting, SCC. & Brodsky Timelike Momenta in Quantum.. Phys. Rev. **145** 1966 1018 [nobwho]
PW Higgs Spontaneous symmetry breakdown .. PR 145 1156-63 1966 [stroke 933]

BD Josephson. Macroscopic field equations for metals.. Phys. Rev. **152** 1966 211-7[nobwho]

G Feinberg PR 159 1967 1089 [sub p 161]

Kreuzer Experimental measurement of the equivalence of active and passive gravitational mass PR **169** 1968 1007-1012 [stroke 491]

Nordtvedt, K. Equivalence principle for massive bodies PR **169** 1968 1017-1025 [stroke 491]

Wilson, KG. Renormalisation group and critical.. Physics Reviews B4 nov 1 1971 3174-83;
3184-05 [nobwho]

Glashow, SL. & Iopoulos Divergencies of massive Yang-Mills ..Physic Rev. D: Particles and Fields 4 Sept 1971 1918-9 [nobwho]

Tipler Rotating cylinders and the possibility of global causality violation PR D 9 1974 2203
[davies]

Gaillard & Lee Rare Decay Modes of the K-Mesons PR D10 897 1974 [wpc]

Hawking S. Black holes and thermodynamics. PR D 13 1976 191-7 [ast]

Wolfenstein Neutron Oscillations in Matter PR D 17 1978 2369-74 [ast]