A Selected Bibliography of Publications by, and about, Paul Adrien Maurice Dirac

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Title word cross-reference

$(1 + 1)$ [Das93]. $(2 + 1)$ [JM99]. $-1/2$ [CT67a]. $-1/2, 1/2, 3/2, 5/2$ [Mac98]. $-\frac{1}{2}, \frac{1}{2}$ [CT67b]. 1 [CG07]. $1 + 1$ [Fei02]. $1/2$ [CT67a, FA01, Ogu96, dB51, dB52a]. 2.7° [Noe73]. **$250.00** [War96]. **$26.00** [Ryc17]. **$29.95** [RS10, Dys10]. 3 [RRS06]. $3 + 1$ [Nak00]. $3 + 2$ [Dir63b]. $3/2$ [CT67a]. **$44.50** [Dre90]. **$49.50** [Sch85]. **$7.50** [Suc67]. $_6$ [DN96]. α [BM98, LT04]. $\alpha, \beta, \gamma, \delta$ [Som36]. c [IC04, MBS02, Mag15]. D [DSP03]. δ [DEŠ89, IP56, IP57, Lut07, Sch72]. e [IC04, MBS02]. e^2 [CP68]. ϵ [GGS04]. $\frac{3}{2}$ [CT67b]. G [AWW$^+$81, Dir75f, Dir78b, Dir80g, Dir82f]. G_F [FA10]. $\mathrm{Gr}_2(\mathrm{C}^{m+2})$ [Mil98]. $H^s(\mathbf{R}^3)$ [EV97]. $\hbar$ [IC04]. m_p/m_e [BBSF10, FK07]. $\mathcal{F}_p(\eta) = 1/\Gamma(p + 1) \int_0^\infty [\epsilon^p/(1 + e^{\epsilon-\eta})] d\epsilon$ [GFG01]. $SU(2)$ [yRSBSV99]. H_2 [SBK$^+$08]. N [Ata89, KY01, MHN98, MB90, Mor85, Won90]. $\nabla^2 n/n$ [MHN98]. $\nabla n/n$ [MHN98]. π [JT10]. q [CPV10, JT10]. R [Szm98, Szm99]. $\mathbf{R}^n$ [Bet83]. r^t [BBR85]. $s > 1$ [EV97]. SL(2, $\mathbf{C}$) [Hos82, Hos83]. SO(4) [LH86]. SO$(4, 1)$ [BC69]. sp$(4, \mathbf{R})$ [Lee95]. SU(N) [LH86]. SU_2

[Mal75c, Yan78b, Yan78a].

-algorithm [GGS04]. **-dimensional** [Das93, KY01, MB90, Nak00, Won90]. **-exponential** [JT10]. **-exponentials** [CPV10]. **-function** [Lut07]. **-functions** [IP56, IP57]. **-invariant** [Hos82, Hos83]. **-matrix** [Szm99, Szm98]. **-shell** [DEŠ89]. **-space** [JM99]. **-Uniform** [RRS06].

/van [Sch85]. **/Vigier** [Sch85].

0-521-31911-0 [Ble86, Sch85]. **0-521-34013-6** [Hen89]. **0-521-34017-9** [Hen89]. **0-521-36231-8** [War96]. **0-521-38089-8** [Hen91].

1 [Dir43a]. **1911** [Meh75]. **1933** [CCJ+34]. **1933/Chadwick** [Ano51]. **1935/1936** [Ano51]. **1945** [Pau45]. **1948** [Hov96, Dar96]. **1959** [LT62]. **1960s** [Mla98]. **1968** [Sal69]. **1971** [DPI71]. **1972** [Dys74, IPM73, Meh73]. **1973** [Kur73]. **1975** [DHS78]. **1978** [KPS+78]. **1979** [Ruf82]. **1984** [Cas85, DP86]. **1988** [SDEW90]. **1993** [BCEP94]. **1994** [dG97]. **1999** [F+00]. **1D** [BJ03].

2 [UM86]. **20.X.1984** [Smo84]. **2002** [BB03]. **2009** [Pet11]. **2013** [Ano13]. **20th** [Gun15, Meh73, SS03, Wal09, Koz90, Med90]. **21st** [RCC+06]. **22** [CCJ+34]. **25** [Ble86].

3 [Ryc17]. **30.00** [Hen89]. **35** [Hen91]. **39** [Szm99].

42 [Pei42].

50 [Ben34]. **50th** [DS83].

7.80 [Deh36]. **745** [Goa95, Goa97]. **779** [Mac98].

8.VIII.1902 [Smo84].

'91 [Wat91]. **978** [Ryc17]. **978-0-300-20998-3** [Ryc17].

AB4 [Pei42]. **AB4/42** [Pei42]. **Abb** [Deh36]. **Abdus** [Bel73, Ell91]. **abelian** [KM84]. **abermals** [Haa34]. **Abnahme** [Tak31]. **Abschlusses** [Pau25]. **absolute** [Dir53b]. **Absorption** [Dir27d, MWF07, Sei36, SCPA04, DH32a]. **abstract** [Jär64, Tha88]. **abstrakten** [Jär64]. **academia** [Buc80]. **Academic** [Suc67]. **Academy** [Dir80c]. **accelerating** [UK82]. **acceptance** [Dir71a]. **Acclaim** [Ano30]. **According** [Inf53a, MRB75]. **account** [Alp73]. **Accuracy** [Neu33]. **Accurate** [BCJT16, Rob85, SM91, SFVW95, YG77, MN97, NM01]. **achievement** [Hoy92]. **Achinstein** [L.88]. **Across** [Bus10, DP03, II08]. **action**

[Dir74a, Tol98]. **actions** [Lan01]. **activity** [Meh87b]. **adaptation** [SM35]. **Address** [Dir80a, Pei87a, Wig87a, Wig96a, Wig96b, Haw98, Sno73]. **ADI** [RSK99]. **adiabatic** [Dir25a, Dir25b]. **adjoint** [Zor80]. **adjointness** [KY01, LR79]. **admitting** [KM84]. **Adrien** [Ano52, Ano83a, Ano83b, DP86, Dir74d, Hal85, Hen89, KW87, Pei85, Ram89, Sch88, Stu88, Wig88]. **Advance** [Ano34b]. **Advanced** [Dys07a]. **adventure** [MB11b]. **Aesthetic** [McA90]. **aether** [Dir54a, Dir51b, Dir52a, Dir52b, Dir54d, CO03]. **Aethers** [Dir53a, Dir53a]. **af** [BR64, RRK$^+$64]. **After** [Dir60b, Kae48]. **against** [Noe73]. **Age** [Stu18, Meh72, Meh87b]. **Aharonov** [Tam03, Vil95]. **Aid** [CMO00]. **Airplane** [GD10]. **Akademische** [Deh36]. **al** [Sch85]. **Alapveto** [Dir78a]. **Albert** [Ano05, HE82, Kle05, PS79]. **alcohol** [Mag15]. **algebra** [Bor85, CDK90, Cra85, Dir26b, DW09, Ham84, IKRT89b, Lee95, MB91, Mar88, yRSBSV99, Nas84, Ten68, Vrb94]. **Algebraic** [BN72, PSA94, QGW01, RR93, Wat91, AT94]. **Algebraical** [Ano00]. **algebras** [ML93]. **Algorithm** [IKRT89a, GGS04, PSA94, TM85, Goa95, Goa97, Mac98]. **állandôk** [Dir78a]. **Allen** [Tiw12]. **allows** [GGS04]. **Almost** [Tau61b]. **alpha** [BMS02b, KM04, MBS02, Bar02]. **alsidighed** [Dir64g]. **Alternative** [Aug95, Bar81, Dra23]. **Alwyn** [Ble86, Tor87]. **Amateur** [Har01]. **Ambition** [Jon08]. **amplitudes** [Eeg80, NM84]. **Anachronism** [Sta12]. **analogie** [dB32b]. **analogies** [FG22]. **analogy** [Dir45b, dB32b]. **Analyses** [Dar91, Dar92]. **Analysis** [LU31, Tau63b, BNB94, CK90, CK91, Lig87, LW75, MB90, MB91, Mar88, Pon05, de 89]. **Analytic** [Tu91, Fer86, KY93]. **Analytical** [BDM81a, Kra81a, Lan05b, Nak97]. **Anderson** [Ano51]. **anisotropic** [Por95]. **Annahmen** [Dir77a]. **annihilation** [Dir30e]. **anniversary** [DS83]. **announcement** [Lub75]. **anomalous** [BB85, Beh85, Dat04, Ogu96, Rou84]. **Anpassung** [SM35]. **Ansatz** [CH02]. **Anschluss** [Jär64]. **anti** [Dit15]. **anti-Dirac** [Dit15]. **antilinear** [HW90]. **Antimatter** [Clo10, Dir78h, Jac98]. **Anton** [Fis10a, Fis12a, Fis10a, Fis12a]. **apart** [Far09a]. **Application** [Dav98, DFPP43, Dir45a, LU31, Tiw12, Dir26f, LR79, LRK80, OP95, SMI83, Wig01, WY85, Dav98, PFD43]. **Applications** [CO03, ERW75, FLS76, RL68, SS11, Tha88]. **Applied** [F$^+$00, LR59, Kim80a, Kim80b, MD88]. **Appointed** [Ano34b]. **appreciation** [Har01]. **Approach** [Bro05, Fey48, FBD05, CH02, Dir78f, DSP03, IT84, Jun97, Leh91, Nak97, OP95, RdO07, RdO16, SBZ90, Bri18]. **approaches** [Dat04]. **approximants** [Rod80]. **Approximate** [Dir30a, Dir43a, IS10a, PFD43, SM35]. **Approximating** [CK90, CK91]. **Approximation** [QGW01, Inf53b, SS11]. **Approximations** [CT67b, SBB$^+$62, CT67a, Fer86]. **Äquivalenzverbot** [JW28]. **Arbeit** [Hei34b]. **Arbitrary** [Dir43a, IKRT89b, Kat00, PFD43]. **Archimedes** [Pic08]. **Aristole** [vW02]. **Aristoteles** [vW02]. **arrival** [Dir82b]. **Arthur** [Deh36]. **Asim** [Ble86, Tor87]. **Aspects** [SW72, Meh75, Pai98, Bel73]. **assessment** [SS03]. **Associated** [GZM05]. **association** [HC87]. **Assumptions** [Dir77a]. **astounding** [Haw11]. **astronomers** [Car01].

Astronomia [RCC+06]. **astronomical** [SV90]. **astronomy** [FF91]. **Astrophysics** [Tau63c, IPM73]. **Asymptotic** [BG91, Bou08, Din58, IM95, Nov74, Wal76, CK78, GFG01]. **asymptotically** [Ogu96]. **asymptotics** [Doa91, NP96, SM03]. **atmosphere** [Dir25d]. **Atom** [Ano30, Dir26e, Dir67c, EKI94, Far09b, Har28, Pau25, Rod19, Bun52b, Dat04, Dir30c, MR10, Sto94, RS10, Dys10, Cas10]. **atomaren** [Sei36]. **Atomic** [BBD+46, Dir84b, FR13, HSD34a, Ish90, McW73, Pei97, Rob85, Sei36, SH59, WBR76, Bel91, CCJ+34, DSK72, Dir36a, Dir55f, LBNZ98]. **atomique** [Dir48e]. **atomiques** [CCJ+34]. **átomo** [Bun52b]. **Atoms** [CR12, Dat95, Csa81, Dir25c, DH32a, DFW99, Tiw12]. **Atomtheorie** [Ben34, HSD34a, Wil36]. **attached** [Pei42]. **Attraction** [KK10]. **Aufl** [Deh36, Haa34]. **August** [DP86, F+00, Zic88, DHS78]. **Ausgestaltung** [Lan30]. **auspices** [CCJ+34]. **Australia** [DHS78]. **autographs** [PKKL09]. **autoionization** [ACM10]. **Automata** [Tau63b]. **automatic** [Nil03b]. **automorphism** [Cra93]. **autres** [Kle05, Ano05]. **Award** [Ano33, LW34]. **Axisymmetric** [JP73].

b [Sch85]. **background** [CGKS94, CV02, Fei02, FSY00, Han99, Por95, SS98, YS03]. **bag** [Fei02]. **Baltimore** [L.88]. **bang** [Das96, YS03]. **banquet** [Sno73]. **Barbara** [GG76]. **Bargmann** [MS95]. **Bargmann-** [MS95]. **Barut** [Ble86, Tor87, Sch85]. **Based** [EKI94, AT07, FA10, Haa34]. **Basic** [Dys10, RS10, Dir69a, Jor52, Jor55, MS87]. **Basis** [Dat95, QGW01, Dir29a, Dir38b]. **Be** [Ano30, Far03, Dir62a, Dir69b, Dir70a]. **Beautiful** [Far03, Wri16]. **Beauty** [Dir54b, Dir79a, HK93, McC04, Smo93]. **became** [Cri18]. **Beck** [Nis35a, Nis35b]. **Bedeutung** [Jor59a, Smo93, Som36]. **before** [Hen83]. **Began** [Kae48]. **behavior** [Son99]. **behaviour** [CK78]. **behind** [Pic08]. **Behram** [L.88, Ram89, Hen89, Sch88, Stu88]. **Belfer** [Suc67]. **Belief** [Dir76a]. **believe** [Dir80h]. **belleza** [Bas08]. **Bemerkungen** [Hei34b, vN28, Hei34a]. **Bergmann** [GNH78, Kru94, TM85]. **Berichtigung** [Hei34b]. **Besprechung** [Hei30a]. **Bessel** [Car92]. **Bethe** [CH02]. **Between** [Stu18, Bal85, Bok04, Dir25c, Dir39c, Dir45b, dB32b]. **Beyond** [Rod19]. **Bibliography** [RZ80]. **Bicentennial** [Pet11]. **Big** [Hür22, YS03, Das96]. **Binary** [VKA21]. **biographical** [Dal87b]. **biographies** [Ano65]. **Biography** [Dre90, Hen91, Deb13, Kra90, Sch91b, Bro91, Dar92]. **biology** [BP79b]. **Birth** [BH83a, BH83b, RCC+06, Sch94b, ACM10, BH82]. **birthday** [BvdM83, Cha73]. **bis** [Fis10a, Fis12a, vW02]. **bispinor** [Cra85]. **black** [FSY00]. **Blackett** [Dir84a]. **Body** [Bus10, CV90, GL92, II08, LC98, SCSB93, Sem93]. **Bohm** [AW17, Col12, Fab22, Tam03, Vil95]. **Bohr** [Lak96, Bal85, BR64, Bok08, Dir24b, Dir28a, Dir64g, Dir67d, Kra17, MR82d, MR82e, RRK+64, Roz67]. **Bohrs** [Dir64g]. **Boltzmann** [Faz15]. **Bondi** [Dir52a]. **Bonn** [Wat91]. **Book** [And88, Bel73, Ble86, Bri18, Bro91, Cas10, Dar96, Dav36, Dra23, Dre90,

Dys74, Dys10, Ell91, Eps35, Ett31, Goe16, Hen89, Hen91, Hov96, Kib98, Kil76, L.88, LJ31, Pau30, Pol58, Ram89, RS10, Ryc17, Sch69, Sch85, Sch88, Sch91b, Sti13, Stu88, Suc67, Tem35, Tor87, War96, Jär64]. **Books** [Dys10, L.88, K.L88, RS10]. **boomerons** [Leo80]. **Boosting** [CKPT04]. **Born** [Dir60d, Gre05]. **Boronlike** [VIK98]. **Bose** [BBR03, Din58, Faz15, Gau93, Kap40, Kos86]. **bosons** [Bel85, RM96]. **both** [Cra88]. **Bound** [BB85, RU81, Cor70, IS10a, ZQ90]. **bound-state** [Cor70]. **Boundary** [GZM05, JP73, FGM$^+$96, FSS98, RS87]. **Bounds** [SV90, SV95, MS95]. **Bra** [Rob66, D'A02, Pru73]. **bracket** [FK70, Lan72, MS68, Rug88, Wot91]. **brackets** [FLS76, Sei99]. **brain** [Lip87]. **Branch** [Bun82]. **bras** [Jau72]. **Brave** [HW06]. **Brecht** [Sch99]. **Breit** [EKI94, Ish90]. **brief** [Pol87b]. **British** [Wal09]. **Broglie** [AW17, Ble86, Bou01, Col12, Deh36, Fab22, Haa34, Sch85, Tor87, Bou01, BVV84, Dav98, Haa34, dBDW$^+$84]. **Broken** [Pei92, Dir73c, Dir73d]. **Brownian** [AW95]. **Brueckner** [MHN98]. **Brussels** [CCJ$^+$34]. **Bruxelles** [CCJ$^+$34, Far01]. **Buch** [Jär64]. **Buchbesprechung** [Deh36, Hei30b, Wil36]. **Bücher** [Ben34]. **bucket** [BP95]. **bulk** [vN96]. **Bundle** [Bri18, Oev88, RdO07, RdO16]. **bundles** [Gre77, UB83]. **Bunge** [Hin77]. **Bunin** [Ano33].

C.W [Hen89]. **Cabrera** [Lub82]. **Calculated** [Dat95]. **Calculation** [IKRT89a, SBB$^+$62, Vul03, NM84, Pic89, Sag91]. **Calculations** [DFW99, Eeg80, Ish90, QGW01, VIK98, Dir55c, EG84, IKRT89b, IKRT91, YG77]. **calculus** [Eeg80]. **California** [Ano34a]. **called** [Gol05]. **Calogero** [MS95]. **Calogero-type** [MS95]. **Cambridge** [Ble86, Dre90, Hen89, Hen91, Pei92, Sch85, War96, Ano30, Dir37c, EP72, Hen84, KN03, Pei87a]. **Can** [Dir69b, Dir70a]. **canonical** [Bel85, BC69, Olv86, PSA94]. **Carolina** [BCEP94]. **Cartan** [DMH85]. **Cartesian** [SC91]. **Case** [Bou08, Pas12, Pic81, Kra81a, RSK99]. **case-study** [Kra81a]. **cases** [All03]. **cat** [Lam87]. **Catania** [RCC$^+$06]. **Cauchy** [Cha72]. **Celebration** [Hen89]. **Centenary** [BCEP94, Hen89, GC97, SS03, Wil05]. **Centennial** [RCC$^+$06, BB03, HE82]. **Center** [KPS$^+$78, KP83]. **Central** [Har28, SM91, SCSB93]. **Centre** [Meh73, Ruf82, Sal69]. **centrifugal** [IU86, YI90]. **centrifuge** [Dir42c]. **Century** [Gun15, RCC$^+$06, Bra09, CM86, Meh73, SS03, Wal09, Wei77, Koz90, Med90]. **Certain** [Dir79c, Wal76, Gre05]. **certificates** [Ano10]. **Chadwick** [Ano51, Dir75e]. **challenge** [CT12]. **challenges** [F$^+$00]. **champ** [Dir39a]. **Change** [Dir79e, Gam67a, Tel48, Wes80, Wil58]. **Changing** [Gun15]. **chapter** [Kra15a]. **Characterization** [YYH$^+$01]. **characters** [Coq85]. **Charge** [Dys67, Gam67d, Per67]. **charged** [AW17, Bor85, BG90, FA01, LMV91, RU81]. **che** [Fer24]. **Chebyshev** [CT67a, CT67b]. **Chemistry** [Bun82, DN96, Len14]. **Chemists** [Sim02]. **chiral** [Fin00, Wot91]. **chromodynamics** [F$^+$00]. **chronology** [Rec97]. **Chronon** [GF02]. **Chunk** [BMP14]. **CI** [DN96]. **circle** [All03, BR64].

Circulation [Bun52a]. **Claim** [Sim02]. **Clarifying** [GG11]. **Class** [BG91, DK89, EF77, FM75, IV85, IK91, KL90, Wil91]. **Classical** [BG90, Dir38a, LBNZ98, Roh60, Bok04, Dir33a, Dir45b, Dir49a, Dir51c, Dir51d, Dir52d, Dir54c, FK70, GS79, MS68, RU81, Sno73, IU86]. **Classically** [GPS86]. **classification** [KLMW88]. **classmate** [Cri18]. **Clifford** [Bri18, CDK90, ML93, PP71, RdO07, RdO16, UB83, Vrb94]. **Closed** [BBR85, Mor85, Bok04]. **Closed-Form** [BBR85]. **closer** [BBSF10]. **Cloud** [Inf53a]. **Cluster** [EKI94]. **clusters** [EG84]. **co** [RRK$^+$64]. **co-workers** [RRK$^+$64]. **codes** [DSK72]. **colleagues** [BR64, Roz67]. **Collected** [Dar96, Hov96, Tau61a, Tau61b, Tau63a, Tau62, Tau63b, Tau63c, War96, Dal95, Wig96d, Dir02, Dir03b, Dir04, Dir05b]. **Collection** [CMO00, Bus10, Koz90, CMO00]. **College** [Dir37c, Jef87]. **collisions** [Dir27e]. **Colloquium** [ACM10, Bat07, UM86]. **combined** [HD77]. **combs** [Ric03]. **Commemoration** [RCC$^+$06, Buc80]. **Comment** [BF12, Kha86, MWF07]. **commentary** [DP97]. **Commission** [BBD$^+$46]. **Committe** [Ano67]. **commutation** [Bel85]. **commuting** [KLMW88]. **compact** [BT90]. **Comparison** [QGW01, Dat04]. **Complete** [GFG01, Goa95, RZ80, KLMW88, KL92]. **completion** [MR00, Pau25]. **Complex** [Dir37a, Gre77, Sla29, Eeg80, Hes75, Mar88, Nas86, Pau25, RA11]. **comprehensive** [Her18]. **Compton** [Dir25d, Dir26f, Dir27a]. **Computation** [Fuk14, Goa95, MS38, Wat91, Doa91, Gau93, TM85]. **computational** [Len14]. **computations** [AT07]. **Computer** [F$^+$00, IKRT89b]. **Computers** [Tau63b, Faz15, Len14]. **Computing** [Ano18, Bel91, F$^+$00, BDM81b, BDM84]. **concept** [Dir78e, Kra81a]. **Conception** [Dir79c, Dys74, Dir73a, Meh73]. **Conceptual** [Dun12]. **Concluding** [Wig96b]. **conclusions** [Jor66]. **condition** [Dir24b, Her18, YI90]. **conditions** [Dir25c, Dir62a, FGM$^+$96, FSS98]. **Conduction** [DuM28]. **cone** [Fin00]. **conféerence** [Dir48e]. **Conference** [BCEP94, Dor82, IPM73, Kur73, Pet11, RCC$^+$06, DPI71, Far01]. **conferences** [Meh75]. **confined** [Das93]. **Confirmation** [DuM28, Jor62b]. **Conformal** [MSB92, Son99, Dir36c, IU86]. **congruences** [KM84]. **conjecture** [CT83, CPV10]. **conseil** [CCJ$^+$34]. **Consequences** [Dir78b, HE06, Jor62a, Jor71, Dir75d, Jär64, HE35]. **Conservation** [Bou85, GS79, GLR14, Dir36a, LCH10]. **Conserved** [Ker83, CV02, SES82]. **Considerations** [Coh70, Fer24]. **Considerazioni** [Fer24]. **Consistency** [GH75]. **Consistent** [Ish90, EG84, MHN98, YL09]. **Consistently** [BSW88]. **Constancy** [Irv83, Per67]. **Constant** [Ano12, BS67, Bek86, BF12, Dir72f, Dir75b, Dir79e, FK07, JRF06, KM12, Mar84, MWF07, Noe73, Rob83, Sch91a, SCPA04, Tel72, VKA21, WB78, WFC$^+$99, Wil93a, WW86, Alp73, AG03, BBSF10, Car01, CKYY07, Cho81, Dir78c, FA10, Hal78, Han99, Inf61, Inf63, Lev80, MG87, Nor86, Ogu96, Peg77, Sch99, ZdSS91]. **Constants** [Gam68, Kra19, SV95, Tel48, Tel72, Wil58, Alp73, Bar02, BMS02a, Car01, CGK72, Dic59, Dir37b, Dir73b, Dir78a, DOV02, Dys72, Dys78a, Dys78b, DFW99, ES10, GT85a, GT85b, GT86, IC04, Jor37, Kha86, KPW86,

LMSV08, Nil03a, Nor86, Pet85, Pet88, SV90, Uza03]. **Constrained** [Tay87a, BNB94, GB90, Sei99]. **Constraining** [JRF06, SBK+08]. **constraint** [CY91]. **Constraints** [sC78, Lee21, Pic81, VKA21, GNH78, Han99, IC04, Kru94, LMSV08, Oev88, Olv86, TM85, YS03]. **construction** [Nas97]. **Constructive** [Sta12]. **Contact** [Löw64, DEŠ92]. **contain** [Fer24]. **container** [Dir42a, Dir42b]. **containing** [DW09]. **Contemporary** [Sal69, Sal69]. **contengono** [Fer24]. **Context** [Sch91a, Pet11]. **Continues** [Ble86, Sch85, Tor87, BVV84, dBDW+84]. **Continuous** [Tau62]. **continuum** [Bel91]. **Contribution** [Ano30, Meh87a]. **contributions** [ES10]. **Control** [GZM05]. **Controversy** [Pic81]. **convection** [CG07]. **Convergence** [Rod80, Tam03]. **Converging** [Din58]. **conversations** [Bri95a, BP79b]. **Coordinate** [Neu33]. **coordinates** [Dir59d, SC91, SC92a, Vil90b]. **Coral** [IPM73, KPS+78, KP83, Per80, DPI71, Kur73, Kur87b]. **Corepresentations** [HW90]. **Cornelius** [BCEP94]. **Correction** [Ehb23, Hei34b]. **Corrections** [Kir97, Csa81, GF02]. **corrector** [Doa91]. **Correlation** [EKI94, MHN98]. **Correspondence** [Ano67]. **Corrigendum** [CT67a]. **coset** [BILP03, OP95]. **Cosmic** [BS67, WBR76, Han99, YS03, Mil97]. **Cosmo** [Kra82]. **Cosmo-Physics** [Kra82]. **Cosmological** [CO03, Dir74b, IRV+08, Sch91a, BM98, BMS02a, DSW08, Dir37b, Dir78c, Dir78f, Hal78, Jor59b, Por95, ZdSS91]. **Cosmologies** [Kra06, GT85a, GT85b, GT86]. **Cosmology** [Alp73, BBBM90, Dic61, Dir61a, Dir78g, Dir05b, Gam67c, Gam67b, Goe16, Kra82, Rei72a, Rei72b, Dir38b, Dir72b, Jor52, Jor55, Kra16, Nor65, Nor90, PD62, ZdSS91]. **Cosmonumerology** [Kra91b, Kra91a]. **cosmos** [HW06]. **cotangent** [Oev88]. **Coulomb** [EKI94, Har28, WY85, BK76, BM70, BBR85, BJ03, CH02, DEŠ92, DSP03, Hos83, Hos87, Hyl84, IS10a, IS10b, IM95, Kim80b, yRSBSV99, RU81, ROB64, SWO76, Vil95, WY84, Won90, de 89]. **Coulomb-like** [IS10a, IS10b]. **counts** [Lub82]. **Coupled** [BSW88, EKI94, BB85, Cha72, LC98]. **Coupling** [Löw64, DST92, GT85a, GT85b, GT86]. **couplings** [DSW08, YZ08, YL09]. **course** [Zic88]. **covariance** [Bel85, UB83]. **Covariant** [UL31, CV90, CY91, LC98]. **Creation** [HND+62, CM86]. **Creativity** [Sch94c]. **creators** [Str11]. **criteria** [DSK72]. **Critique** [Ano05]. **cuántica** [Dir67b, Dir68c, Dir69e]. **cuántico** [Dir54a]. **cubic** [Pen99]. **cultural** [HE82]. **Curies** [Kae48]. **Current** [Pas12, Bor85, Jor59b, LW78]. **Currents** [Ker83, SES82]. **curved** [BO92, Ran87, Rüd84, Vul03]. **curvilinear** [SC92a, Vil90b]. **cylindrical** [BR97, Vil90b]. **Cylindrically** [BSW88]. **Czech** [Dir59b].

d [Jor66, CG07]. **d'Albert** [Buc80]. **Dalitz** [Dar96, Hov96, War96]. **Danish** [BR64, Dir64g, RRK+64]. **dans** [dB32a, dB52b]. **darkest** [HW06]. **darling** [Dir87a]. **Data** [SV95, CG07, Cor70, Han99, SV90]. **dataset** [Lee21]. **De-mystifying** [Lut07]. **dead** [Dir65a]. **Debate** [Pas12, Bok08, HSZ76]. **Debye** [BCK97]. **December** [BB03, BCEP94]. **declining** [Kra15a]. **Decoding** [RS10]. **decrease** [Tak31]. **Deduction** [BI34, BI34]. **déduit**

[Bor49]. **déecembre** [Dir48e]. **Déecouverte** [Dir48e]. **Deep** [Kol67]. **Deep-Sea** [Kol67]. **deepest** [Bar02]. **déeveloppements** [Dir48e]. **défient** [CT12]. **Defining** [Mla98]. **Definite** [Dir79b]. **Deformations** [FLS76]. **degeneracies** [LMV91]. **Degeneracy** [BM70, JM99, MC70]. **Degenerate** [DuM28, Can98]. **degli** [Fer24]. **d'Einstein** [PS32a, PS32b]. **del** [Bun52b, Maj37, Wei77]. **delayed** [Rod80]. **Delivered** [Wig96a, DHS78, Wig87a]. **dell** [Maj37]. **della** [Wei77]. **Delta** [JP73, Lam69, Lam70, Nov74, Wal76, ABR06, BMP14, CPV10, Deb13, GGS04, JT10, LW75]. **Denied** [Ano54]. **Dennis** [Bin00]. **Dennison** [Ano67]. **Dense** [Ric03]. **densités** [dB32a]. **densities** [Cra85, dB32a]. **Density** [Csa92, Dir43a, Rij66, Csa81, Dir30d, Dir42d, Kos86, MHN98, PFD43, SS11, Wig01]. **Department** [Hal78]. **dependence** [Rob85]. **dependent** [AME14, BK10, IS10b, RSK99]. **Derivation** [Eva04, Wot91, Riv94]. **derivatives** [Cor70, GZDA01, MKK05]. **derive** [Cra88]. **derived** [Bor49]. **description** [Car94]. **design** [DSK72, Tau63b]. **detect** [GGS04]. **Detecting** [IRV$^+$08]. **Determinants** [FGM$^+$96, Lan01]. **Deuterium** [CR12]. **Development** [Aur71, Dir73a, Jor49, Meh73, Deb13, Dir71a, Dir73b, Dir74c, Dir78a, Dir81b, Meh75, Meh87a]. **Developments** [Ano62, Dir46, Dir79d, Dir73g, Per80]. **devices** [MZF$^+$12]. **diagonal** [SCSB93, Wig01]. **diagonalization** [Rou84]. **Diagrams** [Wüt11b]. **Dialogue** [Kra91b, Kra91a, Bel99]. **Diatomic** [FK07, BBSF10, YG77]. **dice** [MB11b]. **Dicke** [Dir61a]. **Did** [Far10]. **Difference** [LR59, QGW01]. **Differential** [Coq85, GZM05, Olv86]. **differentiation** [Nil03b]. **Difficulties** [Ano34a, Dir47a, MR82d, MR82e]. **diffraction** [Ric03]. **diffusion** [CG07]. **dilations** [All03]. **dilaton** [CKYY07]. **dimension** [IKRT89b]. **Dimensional** [Sch31a, Sch31b, AKV83, BV85, Das93, FA01, IT88, IU86, KY01, Kam86, Kis98, Lég95, MB90, Nak00, NP96, NdlC08, RSK99, Ten68, Won90]. **dimensions** [Car01, DSP03, Fei02, Kha86, KPW86, Zas89]. **diminishing** [Jor62b]. **dinner** [Jef87]. **Dipartimento** [RCC$^+$06]. **Dipole** [Roz20, Pos84]. **Dirac** [And88, Ano51, Ano13, BB03, Ben34, Ble86, Bri18, Bus10, Cas85, Cas10, CT67a, CMO00, DP86, Dal87b, Dar96, Deh36, Dys10, Ehb23, Ell91, Fis10b, Fis12b, Goe16, Haa34, Hei30b, Hen89, Hen91, Hov96, Jär64, Kib98, KBN83, Lak96, Lan87a, Meh91, Neu33, PR86, Pau30, Pei92, RS10, Sch85, Sch91b, Smo93, Smo84, Stu88, Suc67, Szm99, Tiw12, Tor87, Tu91, War96, Wig96a, Wil36, dB51, dG97, AD87, AW95, All03, All04, AME14, AKV83, AW17, Ama68, AC72, AT07, Ano30, Ano33, Ano34a, Ano34b, Ano52, Ano54, Ano67, Ano75, Ano83a, Ano83b, Ano85, Ano94, Ano02, Ano08, Ano10, Anoxx, Ant69a, Ant69b, Ara93, ABR06, AT94, Ata89, Ati98, AT99, Aug95, BSW88, BO92, BOS96, BK10, BILP03, Bal85]. **Dirac** [BC78, BDM81a, BDM81b, BDM84, BCJT16, BNB94, Bar81, BK76, BvdM83, BVV84, BB85, Bas08, Bat00, Bat07, BSW98, BN72, Beh85, Bel85, Bel91, Bel73, Bel82, Bel94, BMP14, BCK97, BM70, BBR85, Bet83, BBR03, BtGW95, BG91, Bok04, Bok08, BR97, Bor85, BI34, Bor52, Bou85, Bou01, Bou08, BC69, Bri95b, Bro77, BR87, Bro06, BJ03, BP79a, Bue05, BT90,

Bun52a, Bun52b, BV85, CT83, Can98, Car92, Car94, CG07, CO03, Caw69, Cha72, Cha73, CGK72, sC78, CPV10, CH02, CDK90, CGKS94, CH16, Cla94, CT67b, CK90, CK91, Coh70, Col12, Coq85, Cor70, Cor07, CV02, CV90, CY91, Cra85, Cra88, Cra93, Cri18, Cri76, Csa81, Csa92, D'A02, DJ95, Dal87a, Dal95, Dar90, DK89, Das93, Das96, Dat95, Dat04, Dav98]. **Dirac** [DSK72, Dav36, DN96, DL82, Deb13, Dic61, DMH85, Din58, Dir61a, Dir74d, Dir80a, DRFS80, DS83, DEŠ89, DEŠ92, Dit15, DST92, Doa91, DSP03, DW09, Dra23, DuM28, DRF17, DP03, DR93, Dys74, Dys87, Dys07b, EP72, Eeg80, Ehb22, EM33b, EM33a, EF77, EKI94, Eli87, ERW75, EG84, Eps35, EV97, Esp12, Ett31, Eva04, Fab22, FA01, FG87, FGM$^+$96, FSS98, Far09a, Far09b, Far10, Far16, Faz15, Fei02, FM75, Fer49, Fer86, FW87, Fin00, FSY00, Fio06, FLS76, FK70, Fre87, Fre95, Fuk14, FR86, FG22, FZ91, GG02, GLMR94, GL92, GF02, GB90, Gam33, Gar84, GFG01, Gau93, GJEF10, Gin09, GB13, GS84, GS79, GD10, Goa95, God98, GG11, Gol05, GG51, GZDA01, Goo55, GZM05, GNH78, Got11, Gru00, GH94, GGS04, GH75]. **Dirac** [Haa34, Hal87, Hal78, Hal85, HD77, Ham84, HW90, HC87, Hau72, Haw98, Hei30a, Hei34b, Hei34a, HE35, HDW75, HE06, Hen83, Her18, HJL00, Hes73, Hes75, HL38, Hil92, Hin77, HJKS91, Hor11, Hos82, Hos83, Hos87, Hos89, HM99b, HM99a, HK93, Hov96, Hoy92, Hyl84, IT84, IT88, IJ02, IS10a, IS10b, IKRT89a, IKRT89b, IKRT91, IM95, Inf34a, Inf53a, Inf53b, IP56, IP57, Ish90, II08, IU86, IV85, IV87, IK91, JM99, JT10, Jin91, JP73, Jor59a, Jor59b, Jor62b, Jor62a, Jor66, Jor71, Jun97, KY01, KMW86, KM92, Kam86, KM84, KLMW88, Kap40, Kat00, KRR90, KR92, Kem87, Ker90, Ker83, Kil76, Kim80a, Kim80b, Kis98, Kla90, KK10, Köp06, Kos86, KL90, KL92, Koz90, Kra81b, Kra82, Kra90, Kra91b, Kra91a, Kra13]. **Dirac** [Kra16, Kri87, Kru94, KY93, Kur87b, Kur87a, KW87, L.88, K.L88, LW34, Lam69, Lam70, Lan30, Lan05a, Lan05b, LR79, LRK80, Lan01, LW78, Lan87b, LU31, LR59, Lee95, LH86, Lég95, Leh91, LJ31, Leo80, LCH10, LW75, Lin10, LC98, Löw64, Lub82, Lut07, MD88, Mac98, Mal75c, MHN98, MG87, Mar65, MB90, MB91, Mar88, MS95, yRSBSV99, MSB92, Mat87, MR10, McA90, McC04, MS38, MS87, Med89, Med90, Meh72, Meh87a, Meh87b, Meh87c, MR51, ML93, MRB75, Mil98, Mil97, Mit10, MN97, MKK05, Moh07, Mon95, MB11a, Mor85, Mot87, Moy81a, Moy81b, Moy81c, MS68, Mur71, Nak97, Nak00, NM84, Nas84, Nas86, Nas97, NK93, NM01, NP96, NdlC08, Neu00, Neu33, Nil82, Nil03b, Nis32, Nis35a, Nis35b, Nov74]. **Dirac** [Oak00, Oev88, OS81, Ogu96, Olv86, OP95, Paĭ90, Pai87, Pai98, Pai00b, PT86, Pas12, PS32a, PS32b, Pau43, PD62, Pei34, Pei35, Pei42, Pei72, Pei85, Pei87a, Pei87b, Pen99, PP71, Pic89, Plo15, Pod97, Pol58, Pol87b, Pol87c, Pol87a, Pon05, Por95, Pos84, PSA94, QGW01, Rad96, RU81, Ran87, RSK99, RA11, RK96, RM95, RM96, Reu99, ROB64, Rho50, Ric03, Rij66, Riv94, Rob66, RRS06, Rod80, RdO07, RdO16, RR93, RL68, Ros83, Rou84, Roz20, Rüd84, RTV99, Rug88, Rum86, RS87, RZ80, Sag91, Sal87a, Sal87b, SM91, SFVW95, SS03, San79, Sch69, Sch38, Sch31a, Sch31b, Sch41, Sch52, Sch94c, Sch94b, Sei36, Sei99, Sel94, SCSB93, Sem93, SBZ90, Sha87, SMI83, SV89b,

SV89a, SC91, SC92b, SC92a]. **Dirac** [SV93, SS98, SS11, SG11, Sim02, Sky71, Smo93, Smo87, Sno73, SM35, Som36, Son99, SM03, Sri83, Sri89, Sta12, Sta67, Sta87, SES81, SES82, SOS84, Str71, SWO76, Szm98, Szm01, Tak79, Tal04, Tam03, TVvN34, Tau49, Tay87b, Tel73, Tem35, Ten68, Tha88, Tha92, Tha06, Tjo75, Tol98, TM85, TCC97, Tra92, TKS19, UL31, UK82, UB83, Van72, VIK98, Vil90a, VP90, Vil90b, Vil95, VC02, Vrb94, Vul03, Wal09, Wal76, WP96, WBD70, Web87, WBSB14, Wie29, Wig72a, Wig01, Wig88, Wig87b, Wig96b, Wig96c, Wil03, Wil98, Wil91, WY84, WY85, Won90, Wot91, Wri16, Wüt11a, zXZ06, Yan78b, YYH$^+$01, YG77, YI90, YZ08, YL09, Zas89, Zec96, ZQ90, Zic00, Zor80, dB32b, dB32a, dB33, dB34, dB51, dB52b, dB52a]. **Dirac** [dBDW$^+$84, dG80, de 89, de 91, vEdG85, vSJLEdJG86, vN28, vN40, Dar91, Ram89, Sch88, Sti13, Stu88, Bro91, Dar92]. **Dirac-** [Gar84]. **Dirac-félé** [Neu33]. **Dirac-Gleichung** [EM33b, SM35]. **Dirac-Like** [MRB75, WP96]. **Dirac-spinor** [Eeg80]. **Dirac-Theorie** [Som36]. **Dirac-Type** [RRS06, MD88]. **Dirac.** [Dre90]. **Dirac/Gamow** [Kra91a]. **Diracgleichung** [Sch38]. **Diracs** [CKPT04]. **diracsche** [Pei35]. **Diracschen** [EM33a, Hei34b, Hei34a, HE35, Jor59a, Jor59b, Jor66, Neu33, vN28]. **DiracSolver** [TKS19]. **Dirak** [Koz90, Med89, Med90]. **Diraka** [Bel82]. **directed** [RR93]. **Directions** [DHS78]. **Disciplines** [Len14]. **Discontinuities** [Szm01]. **Discover** [Ser12]. **discoveries** [Bra09]. **Discovery** [CR12, BBC$^+$94, Fal97, GC97, Got11, Kae48, Kox97, MR82a, Rob97]. **Discrete** [Dir72a, All03, BK10]. **discretizations** [CG07]. **Discussion** [Dir28a, Dir34a, HND$^+$62, SBB$^+$62, vN40]. **discussions** [CCJ$^+$34]. **disk** [FSS98]. **dispensability** [Bue05]. **Dispersion** [Sei36, Dir27c]. **Dispose** [Ano34a]. **Dissipative** [All04]. **Dissociation** [Dir24a]. **Distant** [MWF07, SCPA04]. **distinctions** [GG11]. **Distributed** [QGW01]. **distribution** [CK90, CK91, Dir34a, Fuk14]. **distributions** [Bet83, Cra88, RS87, Zor80]. **divergent** [Bel91]. **Do** [Wil58, Alp73, Ros83, zXZ06]. **documents** [PKKL09]. **Does** [BS67, Dir36a, Dir75b, Dir79e, Dir81a, Gam67a, Kap40, Wes80, MB11b]. **d'onde** [dB52b]. **d'onde-pilote** [dB52b]. **d'ondes** [BI34]. **Doppler** [Dir24b]. **double** [dB52b]. **double-solution** [dB52b]. **d'ouvrages** [Dar91, Dar92]. **Dr.** [Ano30, Dir40]. **dreams** [Haw11]. **Drehelektrons** [vN28]. **driven** [AG03]. **drogi** [Inf33]. **d'une** [Dav98]. **during** [DHS78]. **dynamic** [DSK72]. **dynamical** [Dir48c, Dir49a, PSA94]. **Dynamics** [Dir24c, Dir27b, Dir33a, Dir49b, Dir50b, Dir51a, Dir55e, Dir58b, Dir77b, Son99, Tay87a]. **dyon** [ZQ90]. **Dyson** [Sch94a].

E. [Bel82]. **Early** [Dir82c, LMSV08, Dir73g, Meh87a, Pai72]. **earth** [FG22, Jor66, Jor71, Kra15a, Kra15b]. **École** [Bou01]. **ed** [Hen89, War96]. **Eddington** [Bek86]. **Edge** [YYH$^+$01]. **edition** [Jär64]. **editors** [Tor87]. **eds** [Ble86, Hen89, Sch85]. **Effect** [FK08, Bat00, Bat07, Dat04, Dir25d, Dir27a, Kox97]. **effects** [DFW99, Gar84]. **efficiency** [Dir42a]. **Ehrenhaft** [Dir77c]. **eigenfunction**

[Szm01]. **eigenfunctions** [Cla94]. **Eigenparameter** [BK10]. **eigenvalue** [All04]. **Eigenvalues** [Cla94, AT07, YI90]. **eightieth** [BvdM83, KMPD85]. **einatomigen** [Fer26]. **einem** [Dir60b]. **Einführung** [Deh36, Haa34]. **Einheit** [Sch38]. **Einige** [Jär64, vN28]. **Einstein** [Ano05, Bal85, Bri18, Buc80, HD77, HE82, SH99, BOS96, BBR03, Bok08, Buc80, Cra88, DMH85, Din58, Dir79a, Dir79d, Dir79c, Dir79b, Dir79f, Dir79g, Dir80e, Dir80d, Dir80c, Dir80h, Dir81b, Dir79m, Faz15, Gau93, GMW80, Gru00, HW96, Jin91, Kap40, Kle05, Kos86, KBN83, MR82d, MR82e, PR86, PS32a, PS32b, PS79, RA11, RM95, Rob15, RdO07, RdO16, RTV99, Tol98, Vil90a, Wie29, Wil93b, Wil91, Zic00]. **elastic** [Gar84]. **Elected** [DP86]. **Electric** [Inf53a, Per67, BM70, DH32a]. **Electrically** [SV93]. **Electricity** [Gam67c, Gam67b, Bun52a, Sto94]. **electrodynamic** [Jär64]. **Electrodynamics** [Ano75, HDW75, Sch52, Sch94b, Sch58, Sch03, BI34, Bro77, DFP32, Dir35b, Dir43b, Dir46, Dir47a, Dir50c, Dir52c, Dir55a, Dir57b, Dir60d, Dir65a, Dir68b, Inf53b]. **électrodynamique** [BI34, Dir52c]. **Electromagnetic** [MWF07, SCPA04, BN72, Dir31b, Dir39a, ZQ90, dB32b]. **électromagnétique** [Dir39a, dB32b]. **Electron** [Ano30, Ano34a, Csa92, Dir77h, Dir79h, Dir79i, Dir79j, HL38, Neu33, Roh60, SBK$^+$08, vN28, Bat07, BN72, Bor52, CH02, CKYY07, CDK90, Dir28f, Dir28b, Dir28c, Dir29b, Dir30d, Dir35a, Dir39a, Dir59a, Dir62c, Dir77g, Dir77i, Dir79k, DFW99, Fal97, GC97, Gol05, Hin77, Kim80a, Kim80b, Kox97, Lan30, Lan05a, Maj37, Mil97, Moy81a, Moy81b, Moy81c, Pai72, Pei34, Pen97, Rec97, Rob97, Som34, Sto94, dB32b, dB33, dB34, dB52b, Ano34a, Dir39a, dB32b, dB33, dB52b, Gar84]. **electrona** [Dir59f]. **Electronic** [Inf53a]. **Electrons** [Dir30i, Dir34d, Dir58a, DuM28, Dir25c, Dir25d, Dir28d, Dir28e, Dir30e, Dir30j, Dir34a, Dir38a, Dir48b, Dir51c, Dir52d, Dir54c, Dir59b, Dir59f, Dir65b, Dir91b, Gam33, KD33, Pau25, Seb19, dB52a, Kra81b, dB52a, dB51, dB51]. **Electrophoresis** [CKPT04]. **electroweak** [KM04]. **elektron** [Neu33]. **Elektronengruppen** [Pau25]. **Elektroni** [Dir57a]. **Elektrons** [Lan30, Dir28f, Dir28d, Neu33, Dir28e]. **Elektrony** [Dir59b]. **element** [Rig02, RS87]. **Elementary** [And88, BH83a, Dir86, FW87, Gam67d, BH82, Fer86, Kat00, KP83, PB68]. **elementary-particle** [BH82]. **elementi** [Fer24]. **Elements** [Dir32a, Fer24, Hos87, WY84, ZQ90]. **elettrone** [Maj37]. **Elimination** [Dir26a]. **elliptic** [ABR06]. **elméletében** [Neu33]. **embedded** [EG84]. **EMC2006** [RCC$^+$06]. **Emeritus** [Ano13]. **Emission** [Dir27d]. **Empirical** [Jor62b]. **Empiricism** [Kra91b, Kra91a]. **enclosed** [Dir42b]. **encode** [Bar02]. **end** [Gre05]. **Energies** [EKI94]. **Energy** [Ano30, BBD$^+$46, Csa92, Dir59c, Dir71f, Dir72c, Dir73h, GLR14, IPM73, MWF07, Roh60, SCPA04, Ano08, BtGW95, Csa81, DPI71, DMH85, Dir36a, Dir42a, Dir62b, Dir70a, Dir71d, Dir71e, Kra17, KPW75, KPS$^+$78, NP96, Per80, SWO76, Wig72b, KMPD85]. **energy-momentum** [DMH85]. **Enhanced** [BBSF10, FK07]. **enquiry** [Alp73]. **Enrico** [Mil07]. **Entgegennahme** [Wil36, HSD34a]. **entre** [Bal85, dB32b]. **episodes** [Bra09, Smo87]. **epistemology** [Wri16]. **Epoch**

[Dir90c, Dic59, Dir88a, Dir88b, Dir90d]. **Epokhe** [Dir90c]. **Equation** [Aug95, BCJT16, Dir71f, Dir72c, Dir77h, Dir79h, Dir79i, Dir79j, Eva04, GB13, GG51, GH94, Inf34a, KK10, Löw64, MRB75, Plo15, QGW01, RK96, Sta67, Tiw12, Wüt11a, vN40, AD87, AME14, AKV83, AW17, Ata89, Ati98, BO92, BK76, Beh85, BCK97, BM70, BtGW95, BI34, BC69, BJ03, CG07, sC78, CGKS94, Coh70, CY91, Cri76, Dat04, Dav98, Dir35a, Dir59a, Dir71e, Dir77i, Dir79k, DSP03, EF77, EV97, Esp12, FA01, FM75, FSY00, FZ91, GLMR94, GL92, GF02, GS84, Ham84, Hil92, Hos82, Hos83, Hos87, Hos89, HM99b, HM99a, IJ02, IS10a, IS10b, IV85, IV87, IK91, Jin91, Jun97, KMW86, KM92, KRR90, KR92, Kis98, Köp06, KL90, KL92, Lan05b, Lin10, MB90, MB91, Mar88, MS95, yRSBSV99, MR51, Mil97]. **equation** [Nak00, RSK99, Riv94, RL68, Rüd84, San79, Sch38, Sel94, SCSB93, Sem93, SMI83, SV89b, SV89a, SC91, SC92b, SC92a, Sky71, SM35, Son99, Sri89, SES81, TVvN34, Tha92, Tha06, TCC97, TKS19, UK82, Vil90a, Vil90b, Vil95, Vrb94, Vul03, Wig72a, Wil03, WY84, Won90, Zas89, Zec96, BI34, Dav98]. **Equations** [Bri18, Dir25e, Dir67a, EM33b, Far03, Ker83, LU31, LR59, Sch31a, Sch31b, Sch41, Tau49, UL31, Wie29, BOS96, BK10, BC78, BR97, Caw69, Cha72, CV90, DK89, Das93, Das96, DMH85, Dir36b, Dir36c, Dir69b, Dir70a, Dir71d, Dir77d, EM33a, Fre95, GS79, HD77, Hau72, Jin91, KM84, KBN83, LH86, Lég95, LC98, MD88, Mal75a, Mal75b, Mal75c, MR10, MR82c, Nak97, Pai87, PT86, PS32a, PS32b, PP71, Por95, Rad96, RA11, RdO07, RdO16, SM91, SFVW95, SBZ90, SG11, SES82, SOS84, Szm98, Szm99, Tak79, Tu91, VP90, VC02, Wil91, de 89, PS32a, PS32b]. **equilibrium** [BSW98, Col12, Dir25c]. **Equivalence** [Dir64a, Bro77, JW28, Nas86]. **equivalent** [AW17]. **Era** [Dir77f, Dir87e]. **Erde** [Jor66]. **Erforschung** [Fis10a, Fis12a]. **Ergodic** [Tau61b]. **Erice** [Zic88]. **Erratum** [Gam67c, GT85a, Mal75a, Szm99]. **error** [ABR06, CG07]. **Erwin** [Dir61b, MR87]. **Essays** [Ble86, Sch85, Tor87, BVV84, SH99, dBDW$^+$84]. **Essential** [KY01, Ogu96, LR79, LRK80, Rig02]. **established** [Ano85]. **Estimate** [Dir42a]. **estimates** [ABR06, BtGW95, CG07]. **était** [Ano05, Kle05]. **etc** [Jor59a]. **etc.** [Jor59a]. **éter** [Dir54a]. **Ettore** [RCC$^+$06, ACM10, Esp08, ES10, EAW15, MRB75]. **Euclidean** [FA01, Lég95, Leh91, Ric03, dG80]. **Eugene** [Ble86, Hen89, L.88, Ram89, Sch85, Sch88, Stu88, Tor87, BVV84, Wig96d, dBDW$^+$84]. **Eulogy** [Lan87a]. **Europe** [Rod19]. **European** [Dor82]. **Evaluation** [McA90, WBD70, BBR03, GZDA01, MN97, MKK05, NK93]. **Evaluations** [Moy81a]. **Evans** [Eva04]. **even** [SMI83]. **Evening** [BDH70]. **Evidence** [CT83, Noe73]. **evidential** [Fra04]. **Evolution** [Dir63a, Dir71b]. **Evolutionary** [Dir72b]. **Exact** [CGKS94, FA01, HM99b, HM99a, IV87, Jin91, Por95, ROB64, Rou84, RTV99, Sta67, Vil90a, Vil95, WP96, Won90, BC78, DK89, FM75, KBN83, PR86, SV89a, SV93, VP90, Vil90b, VC02, Wil91]. **examination** [BBSF10]. **example** [Coq85]. **examples** [AT94]. **Excellence** [Dir80e, Dir79f]. **exceptional** [Nas86]. **Exchange** [Csa92, Dir30c]. **Exchange-Energy**

[Csa92]. **Exciting** [Dir77f, Dir87e]. **Exile** [Ano33]. **exist** [Ros83]. **existence** [FSY00]. **Expanding** [Jor71, Kra15a, Kra15b, Sch41]. **Expansion** [BG91, Dir42b, GPS86, Jor66, Rij66, Csa81, Fin00, IM95]. **Expansions** [Din58, BDM81a, GFG01, Szm01]. **expectation** [YS03]. **Experiences** [Ano55, L.88]. **Experiment** [Pei36, Zic84]. **Experimental** [Ano34a, Dic64, DuM28, MBS02]. **experimenter** [Kri87]. **experiments** [KPW75]. **Explicit** [Cor70]. **exponential** [JT10]. **exponentials** [CPV10]. **Expression** [Lam69, Lam70]. **Expressions** [BBR85, Nov74, Wal76, Car92, Cor70]. **Extend** [Ano34a]. **extended** [BG90, Dir64e, IK91, MHN98, Pru73]. **extensible** [Dir62c]. **Extension** [CV90, AT94]. **Extensions** [All03]. **external** [AD87, Dar90, HM99a, Rou84, SV89b, SV89a, SC91, SC92b, SC92a, SV93, ZQ90]. **extra** [Car01, Kha86, KPW86]. **Extraordinary** [Dir90c, Gib19, Dir88a, Dir88b, Dir90d]. **extrapolation** [CY91].

F.R.S [Dir37c]. **F.R.S.** [DP86]. **Faces** [Bri18, RdO07, RdO16]. **factorization** [Cra85]. **Factors** [Din58]. **Fail** [GLR14]. **faite** [Dir48e]. **Fantastic** [WD06]. **Farmelo** [Cas10, Dys10, RS10, Sti13]. **Fast** [IKRT89a, IKRT91]. **Faster** [zXZ06]. **Father** [Dir03a]. **FD** [FR86]. **FDG** [FR86]. **FDH** [FR86]. **fears** [Dir69c]. **feet** [Pol87a]. **fejlödésük** [Dir78a]. **Feldgleichungen** [EM33a]. **feldtheoretische** [Lan30]. **félé** [Neu33]. **Fermi** [CT67a, Csa81, Csa92, DuM28, GG51, MHN98, Rij66, Tu91, YG77, BDM81a, BDM81b, BDM84, Bel82, Bel94, BBR03, BG91, CT67b, Cra88, Din58, Doa91, Faz15, Fer86, FA10, Fuk14, FR86, GFG01, Gau93, Goa95, GZDA01, Kap40, Kos86, Löw64, Mac98, MS38, MR51, Mil07, MN97, MKK05, Moh07, NK93, NM01, Pei72, Pic89, Rho50, Sag91, SS11, Tu91, WBD70]. **fermion** [Fei02, ZQ90]. **Fermions** [FK08, Bel85, Col12, MZF$^+$12]. **Feynman** [And88, Bus10, CY91, Bro05, DR93, FBD05, II08, KY93, Sch94a, Wüt11a, Wüt11b]. **fidelity** [AME14]. **Field** [Dir50a, Dir55d, Dir83b, Dun12, Har28, Inf53a, Ish90, KK10, KP83, Pau43, Sch69, Sch91a, Suc67, AD87, BN72, Bor85, CDK90, Dar90, Dir31b, Dir39a, Dir51a, Dir55b, Dir55e, Dir59c, Dir62a, Dir62b, Dir62e, Dir64d, Dir64e, Dir66b, Dir68d, Dir87d, Ehb22, Ehb23, EM33a, Gre77, HD77, Inf61, IU86, Jos72, Kur87a, LMV91, Lan30, Lan05a, Mal75a, Mal75b, MS87, Oev88, Ogu96, Olv86, RU81, Ran87, Rou84, Sal87a, Sal87b, Tam03, TCC97, YI90, ZQ90, dG80]. **field-theoretical** [Lan30]. **Fields** [BSW88, Fab22, SBB$^+$62, AW95, AFG75, BCK97, Can98, Car92, Car94, CH02, Dir25a, Dir49a, Dir62d, Hau72, HM99a, Ker90, LW78, Leh91, PR86, Reu99, SM91, SV89b, SV89a, SC91, SC92b, SC92a, SV93, Vil95, Yan78b]. **fifth** [Dor82]. **Fifty** [Kae48, RZ80]. **Fig** [Wil36]. **find** [Lub82]. **Finding** [CMO00, Car01]. **Findings** [Ano30]. **Fine** [BS67, Bek86, FK07, MWF07, SCPA04, WFC$^+$99, AG03, BBSF10, Car01, CKYY07, Han99, MG87, Sta12]. **Fine-Structure** [BS67, Bek86, FK07, MWF07, SCPA04, BBSF10, Car01]. **'Fine-Tuning** [Sta12]. **Finite** [QGW01, Dir62e, Sal87a, Sal87b, SWO76].

First [Ano33, Dat95, Ell91, GMW80, SDEW90, Stu18]. **First-Row** [Dat95]. **Fisica** [RCC+06, Wei77]. **Five** [Sch31b]. **Fixation** [Dir59d]. **fixed** [BB85]. **Fizika** [Med90, Koz90]. **fizikai** [Dir78a]. **fizike** [BDH70]. **fiziki** [Dir83d]. **Florida** [BB03, CMO00, Hal78, KPS+78, Per80, CH16, KP83, Lan87b, Oak00]. **flow** [Bun52a]. **fluid** [IV85]. **Flux** [DP03, Lub82]. **Flux-across-surfaces** [DP03]. **Fock** [Ish90, Dat95, DN96, VIK98]. **Fock-CI** [DN96]. **Fois** [Ano05, Kle05]. **Foldy** [Hos89]. **Folgerungen** [Jor66, HE35]. **Following** [UL31, Dir28a, Jär64]. **fonction** [Sch72]. **Forbidden** [GPS86]. **Forces** [Ell91, Dir73c, Dir73d, SDEW90, SHD91, Zic88]. **Form** [BBR85, Dir51a, Dir58d, Olv86]. **Formalism** [GG02, Rob66, Suc67, Ant69a, Ant69b, Kam86, Pru73, Wot91, vEdG85, vSJLEdJG86]. **Formation** [Jor49, MS87]. **former** [Phi87]. **Forms** [Dir49b, LC98, Tha88]. **formula** [Doa91, Mor85]. **formulas** [Wig01]. **Formulation** [Fab22, GG02, Mar65, MR82b, Dir55a, GH75, RM96, Szm98, Szm99, Tjo75]. **fortalt** [BR64, RRK+64]. **Fossil** [Mau76]. **Foundation** [Jos72, Mat87, MR82d, MR82e]. **Foundations** [Dir64b, Dir66a, GL23, Dir78d, Med89]. **Four** [Ano75, HDW75, DW09, IU86, Lég95, Zas89, Sch31a]. **four-dimensional** [IU86, Lég95]. **Fourier** [CK90, CK91, Lig87]. **Fourth** [Jär64]. **fractionating** [Dir42c]. **Fragments** [Kra19]. **frames** [UK82]. **Framework** [Dun12]. **France** [Ano33]. **free** [BT90, Dir25d]. **French** [Bal85, BI34, Bor49, Bou01, CCJ+34, CT12, Dav98, Dir31a, Dir34c, Dir39a, Dir49c, Dir52c, Kle05, PS32a, PS32b, Sch72, dB32b, dB32a, dB33, dB34, dB51, dB52b, dB52a]. **frequencies** [Rob85]. **frequency** [Dir24b]. **Friedmann** [Sri83]. **friends** [BR64, RRK+64, Roz67]. **frontier** [BBC+94, Pet85, Pet88]. **frontiers** [KPS+78]. **FRS** [Dal87b]. **fuerzas** [SHD91]. **Function** [AT99, JP73, Lam69, Lam70, Rij66, BMP14, Car92, Deb13, Hos83, Hos87, Hyl84, IM95, JT10, Lut07, Rod80, Sch72, SS11, WY85]. **Functional** [Nil03b, All03, Csa81, SS11]. **Functionals** [Csa92]. **Functions** [Din58, Mac98, MS38, Nov74, ROB64, Rho50, Tau61b, Wal76, AW95, BDM81a, BDM81b, BDM84, Bel91, Dir55c, Fer86, GZDA01, GGS04, IP56, IP57, Kos86, Lig87, LW75, Mal75c, RS87, SWO76, ZQ90]. **Fundamental** [Dir25e, Dir67a, Dir71c, Dir73b, Dir77d, Edd46, Ell91, ES10, IPM73, Kur73, Mar84, Per67, SV95, WBR76, Alp73, CGK72, DPI71, DSW08, Dir84c, Dir84e, DOV02, Dys72, DFW99, IC04, Kha86, KPW86, LMSV08, Lee95, MR82c, Nil03a, Nor86, Pet85, Pet88, SDEW90, SHD91, SV90, Uza03, Dir78a, Str71]. **fundamentales** [SHD91]. **Furry** [Ano34a]. **Further** [Sta67, IP57]. **fusion** [Rei72a, Rei72b]. **Future** [Dir84b, Peg77, Pet11].

G [Dar91, L.88, Stu88]. **Gables** [DPI71, IPM73, Kur73, KPS+78, KP83, Per80, Kur87b]. **galaxies** [Hoy87]. **Galileo** [Buc80]. **Gallery** [Pai00a]. **Games** [Tau63c]. **Gamma** [Din58, IKRT89a, Lee95, Pod97]. **Gamma-Matrices** [IKRT89a]. **Gamow**

[Alp73, GG76, Har01, Kra91b, Kra91a, Rei72a, Rei72b]. **gaps** [NP96]. **Gas** [DuM28, Fer26]. **Gases** [Fer26]. **Gauge** [BSW88, Dir55a, GB90, Zic84, ZDF+84, Ara93, BV85, Dir50c, FG87, Kam86, Pon05, RM96, Yan78b, Dir52c]. **Gauge-invariant** [Dir55a]. **Gaussian** [QGW01, Sag91]. **geb** [Deh36]. **gegenwärtigen** [Jor59b]. **geh** [Ben34]. **gehaltenen** [HSD34a, Wil36]. **Gell** [MHN98]. **Gell-Mann** [MHN98]. **Genauigkeit** [Neu33]. **General** [Ano62, Das93, Dor82, GL92, Hov96, Inf34a, Kil76, NM84, Ruf82, Sch31a, Sch31b, CV90, Fuk14, LC98, SMI83, UB83, Ant69a, Dir43a, Dir75g, Dir96, Tra92, Wil93b]. **générales** [Dir53c]. **generalised** [Lig87, NK93]. **Generalization** [Yan78b, BCK97, UK82]. **Generalized** [AT99, Dir50b, Dir58b, FR86, GZDA01, Lan01, BBR03, DW09, Fei02, Gau93, NM01, Pic89, Riv94, Sag91]. **generates** [Nas97]. **Generation** [Hür22]. **generators** [Nas84]. **Genesis** [Wüt11b, Kra81b]. **Genius** [Bri95a, Dys10, Pai00a, Far16]. **geodesic** [KM84]. **geology** [FG22]. **Geometric** [KR92, Ham84, Kru94, Ran87]. **Geometrical** [Ano00, Jun97, Dir74e]. **Geometry** [Tau62, Ati98]. **Geophysical** [Jor62a, SV90]. **Geophysics** [Jor59a, Kra15a, Kra16, Goe16]. **Geophysik** [Jor59a]. **George** [Alp73, Dys93, GG76, Har01, Rei72a, Rei72b]. **Georges** [Dir68e, Dir72e]. **German** [Bos24, Dir27e, Dir28f, Dir28d, Dir28e, Dir30b, Dir53a, Dir60b, Dir60a, Dir77a, Dir80b, Dir84e, Dir87b, EM33b, EM33a, Far16, Fer26, Fis10a, Fis12a, Haa34, Hei34b, Hei34a, HSD34a, HE35, Jär64, JW28, Jor37, Jor52, Jor55, Jor59a, Jor59b, Jor66, Lan30, Neu33, Pau25, Pei35, Sch38, Sei36, Smo93, Som34, SM35, Som36, Tak31, vN28, vW02]. **Germany** [Wat91]. **Gesetz** [Bos24]. **Get** [Ano33]. **Gets** [Ano33, Ano34b]. **Gleichung** [EM33b, SM35]. **Gleichungen** [EM33a]. **Global** [BF12, KM12, KK10, FSS98]. **God** [MB11b]. **Goes** [Ano33]. **Gold** [Dir52a]. **golden** [Meh72, Meh87b]. **Gordon** [GS79, CV02, SBZ90, VC02, de 89]. **Goudsmit** [Lak96]. **GPS** [Ano12]. **gradient** [Csa81, Dir24a, PSA94]. **gradient-holonomic** [PSA94]. **gradients** [MHN98]. **Graduate** [Suc67, Bus10]. **Graham** [Dys10, Cas10, RS10, Sti13]. **grand** [DNRV03]. **Grant** [Ano33]. **graphs** [BT90]. **Graßmann** [Pet11, Hor11, PKKL09]. **Grassmannian** [Rum86]. **Gravitation** [BD61, Dic59, Dir78g, Dir79d, Dir05b, Jor71, ZdSS91, Dir58d, Dir59d, Dir79f, Dir79m, Jor62b, LT62, SS98, Dir79g, Dir80e]. **Gravitational** [Dir72f, Dir75b, Dir79e, Dir83c, JRF06, Mal75b, Rob83, Sch91a, SBB+62, VKA21, Wil93a, WW86, Cho81, Dir59c, Dir62b, Dir62d, Dir62e, Dir64e, Dir68d, Dir78c, Hal78, Inf61, Jor66, Lev80, Ros83, Sch99, Web87, Dir60b, Dir60a, Dir87b, Mal75a]. **Gravitationshypothese** [Jor66]. **Gravitationswellen** [Dir60b, Dir60a, Dir87b]. **Gravitatsiya** [Dir05b]. **Gravitochemical** [JRF06]. **Gravity** [BSW88, Gam67a, Gam67c, Gam67b, Goe16, Kra15b, Wes80, BP95, Bel85, Can98, Kra15a, Kra16, SS72, Jor52, Jor55]. **gravomagnetic** [LBNZ98]. **Great** [Far03, Hen89, L.88, Ram89, Sch88, Stu88, Wüt11a, Kae48, KW87, Pic08, vW02]. **Greatest** [Gun15, Hür22, Gab13, Wal09]. **Green** [Dys93, Hos83, Hos87, Hyl84, IM95, WY85]. **Grenzen** [Neu33]. **Grosse**

[vW02]. **Grossmann** [Ruf82]. **Group** [DSP03, Far01, Tau61b, Wig39, WY84, Dir45c, Dir63b, Dir72a, KM84, Lég95, Mal75c, NdlC08, RL68, RRK+64, Ten68, Wig89]. **Groups** [Wey31b, Wey50, Pau25]. **Grund** [Deh36, Haa34]. **Grundlagen** [Jor52, Jor55]. **Gruppentheorie** [Wey31a]. **GTO** [Dat95]. **Guide** [Rod19]. **Guy** [Lan87a].

H [Dar96, Dir61a, Hov96, War96]. **H.** [Dir52a, Dir64a]. **Haas** [Deh36]. **Half** [Ano18]. **Half-light** [Ano18]. **Half-matter** [Ano18]. **halos** [Hoy87]. **Hamilton** [AW17, Caw69, PP71]. **Hamiltonian** [CY91, Dir50b, Dir51a, Dir58b, Dir58d, Dir59d, Dir64c, DEŠ92, EKI94, JM99, Oev88, Ogu96, Olv86, Rou84, Sei99, TM85, YZ08]. **Hamiltonians** [NP96]. **hans** [BR64]. **harmonics** [Yan78a]. **Hartree** [Dat95, DN96]. **harvest** [Bra09]. **határai** [Neu33]. **Hawking** [KN03, Pic08]. **HD** [IRV+08]. **Heating** [JRF06]. **Heisenberg** [Ano51, Ben34, Deh36, Haa34, LW34, Lak96, Wil36, Ano33, Ano34a, Ano75, Bok04, BR87, Dir28a, Dir64a, Dir76b, Haa34, HDW75, Nis32, Smo93, vW02]. **Held** [Meh73, CCJ+34, Hal78, Jef87, KPS+78, KP83, Ruf82, Sal69, Zic88]. **Helge** [Bro91, Dar92, Dre90, Sch91b, Goe16, Hen91]. **hemisphere** [DFPP43, PFD43]. **hemispheroid** [DFPP43, PFD43]. **heritage** [Esp08]. **Hermann** [PKKL09]. **Hermite** [Doa91]. **Hess** [Ano51]. **Hestenes** [Ham84]. **Hidden** [Cas10, Dys10, Far09b, RS10, Sti13, Far16, Lee95]. **hidrógeno** [Bun52b]. **Hierarchy** [CV02, DW09, YZ08, YL09]. **Higgs** [AFG75, Tol98, YS03]. **High** [AME14, BtGW95, Fer86, IKRT89b, IPM73, Rij66, DPI71, Dir70a, Dir71d, KPW75, KPS+78, NP96, Per80, KMPD85]. **High-** [BtGW95]. **high-energy** [Dir70a, Dir71d, KPW75, KPS+78, NP96, Per80, KMPD85]. **High-fidelity** [AME14]. **High-precision** [Fer86]. **higher** [Kru94]. **higher-order** [Kru94]. **Hilbert** [Tol98, Dir70c, Dir74g, Dir91a, Pru73]. **Hintertreppe** [Fis10a, Fis12a]. **Hirshfeld** [Tiw12]. **Hirzel** [Ben34, Wil36]. **Historical** [GL23, Deb13, Dir75c, HE82, Kra81a, Kra06]. **Histories** [Pei97]. **History** [Dir87c, KN03, Kra82, Kra19, UM86, Wei77, BN13, Fra04, Kra15a, KHFA67, Nor65, Nor90, Oak00, Pai72]. **Hold** [Ano18, Dir36a]. **hole** [FSY00, Pei35]. **Holes** [Mon95]. **holonomic** [PSA94]. **Homogeneous** [Dir33a, Inf53a]. **honor** [KMPD85, LW78, SH99]. **Honoring** [Dys74]. **Honour** [Ble86, Sch85, Tor87, BVV84, Sno73, dBDW+84]. **Hooft** [CK78]. **Hopes** [Dir69c]. **host** [Hal78]. **Hulthén** [IS10a]. **Human** [Bus10, II08, Lip87]. **hundred** [GMW80, Rob15]. **Hungarian** [Dir78a, Neu33]. **hybrid** [MZF+12]. **Hydrodynamics** [Tau63c]. **Hydrogen** [Dir26e, Dir67c, Lak96, Rig02, Bel91, Bun52b, Dat04, DH32a, MR10]. **hydrogen-like** [DH32a]. **Hydrogenic** [Tiw12]. **hyperbolic** [CV90, Köp06]. **Hypergraphs** [RRS06]. **hypersurfaces** [Tra92]. **Hypothese** [Jor59a]. **Hypothesen** [Jor59b]. **hypotheses** [Jor59b]. **Hypothesis** [Bos24, Jor62a, Jor71, Tel73, Dir25a, Jor62b, Jor66, Dir74b, Dir75d, Dir78c, Dir79g, Jor59a].

Ia [FA10]. **Idea** [Dir79b, Car01]. **ideal** [Fer26]. **idealen** [Fer26]. **Ideas** [Dir78g, Dir69a, Dir73e, MS87, dB52b]. **idées** [dB52b]. **identical** [Fer24, Mil07]. **identici** [Fer24]. **Identities** [Nas84, Kat00]. **idöbeni** [Dir78a]. **ignited** [Gre05]. **ihre** [Lan30, Som36]. **II** [Wig96d, Ant69b, Dir28c, Dir52d, Dir72c, Dir88a, Dir03b, Hos83, Kim80b, Kox97, Lam70, LRK80, MB90, Nis35b, PS32b, PFD43, PSA94, Tau61b]. **III** [BMP14, Din58, Dir54c, Dir88a, Dir04, MB91, Tau63a]. **Illuminating** [Bat07, HW06]. **illus** [Dre90]. **im** [Jär64, Pau25, Pei35]. **imaginäre** [Sch38]. **imaginary** [Sch38]. **implementability** [FG87]. **implementation** [IKRT91]. **implications** [Mil97]. **Important** [Ano30]. **Improved** [SBK+08]. **impulses** [Nil03b]. **IMT** [MKK05]. **inadequacies** [Dir87d]. **inception** [Ehb22, Ehb23]. **including** [Ano65, IS10a, Sno73]. **Inclusion** [RM96]. **inclusive** [Ano10]. **Incomplete** [Goa95, Pon05]. **increased** [Car01]. **Indefinite** [Hei72]. **independent** [Dic59]. **Infeld** [Dir52b, Dir60d]. **Infinite** [NdlC08, Dir34a]. **Infinite-dimensional** [NdlC08]. **Infinitesimal** [Ker83]. **Influence** [Dir76b, Dir80d, Kur87a]. **informal** [CH16]. **Information** [Plo15, DSK72, RS10]. **Inhomogeneous** [Wig39, Wig89]. **initial** [CG07, Ehb22, Ehb23]. **Innocence** [Stu18]. **Inquiry** [Gib19]. **institut** [CCJ+34]. **Institute** [Ano34b, CCJ+34, F+00]. **Instruments** [L.88]. **Insulator** [FK08]. **integrability** [SOS84]. **integrable** [PSA94, YZ08, YL09]. **Integral** [Goa95, JP73, MD88, Rho50, Fuk14, IT84, KY93, Lin10, MN97, MKK05, Moh07, NM01, OS81, Rum86, SS72]. **Integrals** [BBR85, BG91, CT67b, Din58, ROB64, BBR03, CT67a, Dir25b, Doa91, FH65, FHS10, FR86, GFG01, Gau93, NK93, Pic89, Sag91, SWO76, Tal04, WBD70]. **Integration** [BOS96, Csa92, BO92, Sei99]. **Integrator** [BCJT16]. **Interacting** [Dir62d, Bel85, Rou84]. **Interaction** [KK10, BSW98, DEŠ89, DEŠ92]. **Interactions** [Kur73, BK76, BJ03, CV90, DPI71, Dir86, IPM73, LC98, Web87, Zic84]. **interdisciplinary** [F+00]. **Interest** [L.88, K.L88]. **interfaces** [dG97]. **internal** [MB90]. **International** [BCEP94, Meh73, Ruf82, Sal69, Wat91, Zic88, Ano10, Car01, CCJ+34, RCC+06]. **Interpretación** [Bun52b]. **Interpretation** [Dir27b, Pei36, Dir30d, Dir42e, Dir68b, Lan30, Lan05a, Pol87c, Ran87, vEdG85, Bun52b]. **intertwining** [Wil98]. **Interview** [Ano94, BP79a]. **intrinsèque** [Bou01]. **Intrinsic** [RL68, Bou01]. **intrinsic-particle** [Bou01]. **Introduction** [Csa81, Haa34, dB52b, vSJLEdJG86]. **Invariance** [BF12, DPP97, KM12, Rob85, WB78, ZDF+84, Cra93, Dir25b, DPP42, FA01, MSB92]. **Invariant** [Lég95, Dir55a, Hos82, Hos83]. **inventory** [KHFA67]. **Inverse** [Cor70, HJKS91, Jun97, Leo80]. **inversion** [Cra85]. **Investigation** [Dir26e, Dir67c]. **investigations** [CH16]. **Invited** [DPI71]. **involutional** [Kim80a, Kim80b]. **Ions** [VIK98]. **ISBN** [Ble86, Hen89, Hen91, Ryc17, Sch85, War96]. **isometry** [KM84]. **isotopes** [Dir41]. **Israel** [UM86]. **ISSAC** [Wat91]. **Italian** [Fer24, Maj37]. **Italy** [Dys74, Meh73, RCC+06, Zic88]. **iterative** [Ata89]. **IV**

[Dir05b, Far01, Tau62]. **Ivancevic** [Bus10, Bus10].

J [Dar91, Fal97, L.88, Sch85, Szm99, Fal97]. **J.** [Dir71a]. **J.-P** [Sch85]. **Jacobi** [AW17, PP71]. **Jagdish** [Dys74]. **James** [Ryc17, Dir75e]. **Jan** [KPS$^+$78, Per80]. **January** [DPI71, IPM73, Kur73, KP83]. **jauge** [Dir52c]. **Jean** [Ble86, Tor87]. **Jean-Pierre** [Ble86, Tor87]. **jepohe** [Dir90d]. **Jerusalem** [HE82]. **John** [Dir37c, F$^+$00, Jef87, Stu88, Réd05, Tau61a, Tau61b, Tau63a, Tau62, Tau63b, Tau63c, vN96]. **Johnson** [DJ95]. **joint** [F$^+$00]. **Jones** [L.88]. **Jordan** [Kra15b, Sch99]. **Journey** [FR13]. **journeys** [WD06]. **juin** [LT62]. **Jülich** [F$^+$00]. **July** [Ruf82, Wat91]. **June** [Pei92, Sal69].

Kähler [PT86, Reu99]. **Kahn** [Kos86]. **Kalinga** [Aur71]. **Kálnay** [Hin77]. **Kaluza** [GT85a, GT85b, GT86, Mar84]. **Kapitza** [Bat00, Bat07, DRFS80]. **Kargon** [L.88]. **kart** [Wil36]. **Kasner** [Sri89]. **Kelvin** [L.88]. **Kepler** [Cor86, DJ95, IU86, YI90]. **kernel** [MD88, Rod80]. **Kerr** [EF77, KM92]. **Ket** [Rob66, D'A02, Pru73]. **kets** [Jau72]. **Key** [Ano18]. **Killing** [BCK97]. **Kilmister** [Hen89]. **Kinetic** [Ano30, Csa92]. **Kinetic-Energy** [Csa92]. **Kinks** [Sky71, Leo80]. **Klein** [CV02, GS79, GT85a, GT85b, GT86, Mar84, SBZ90, Som36, VC02, de 89]. **Klein'schen** [Som36]. **kleinsten** [Fis10a, Fis12a]. **Knowledge** [Ano34a]. **Komplexstruktur** [Pau25]. **koordináta** [Neu33]. **koordináta-mérés** [Neu33]. **Koordinatenmessungs** [Neu33]. **Koordinatenmessungs-Genauigkeit** [Neu33]. **Kosmologie** [Jor52, Jor55]. **kosmologischen** [Jor59b]. **Kosmologiya** [Dir05b]. **Kostant** [Pen99]. **Kragh** [Dre90, Goe16, Hen91, Bro91, Dar92, Sch91b]. **kreds** [BR64, RRK$^+$64]. **Kursunoglu** [Hen89, L.88, Ram89, Sch88, Stu88]. **Kvantovaya** [Dir02, Dir03b, Dir04]. **kvantovoi** [Dir60c, Dir90b]. **kvantovoj** [Dir68a, Dir99, Med89]. **Kvantovoĭ** [Dir32a]. **kwanty** [Inf33].

Laboratory [SBK$^+$08, Dic59]. **Lagrangian** [Dir33b, Dir05a, OP95]. **Lagrangians** [RM95]. **Laguerre** [MR10]. **Lanczos** [BCEP94, GH94]. **language** [Ehb22, Ehb23]. **Large** [Alp73, Ata89, Dir74b, Dir75d, Dir78c, Dir79g]. **Large-** [Ata89]. **last** [Alp73, Rec97]. **later** [Esp08]. **Lattice** [HJL00, MKS$^+$13, F$^+$00]. **laureate** [Ano65]. **Law** [Bor49, Bos24, Ano34a]. **Laws** [And88, Irv83, Bou85, D'A02, FW87, GS79, Pic08, Rob85]. **Lax** [PSA94]. **lead** [Rob85]. **Leap** [Bus10, Fis10a, Fis12a, II08]. **Leben** [Far16]. **lecture** [Dir60b, HSD34a, Pei92]. **Lectures** [Dir35b, Dir55b, Dir64d, Dir64f, Dir66b, Dir67f, Dir01, Dir02, Dir05b, IPM73, L.88, Nis32, Nis35a, Nis35b, Sch69, Suc67, Ano65, BDH70, DPI71, DHS78, FW87, Dir68a, Dir99, Ell91, SDEW90, dG97, And88]. **led** [Bel82]. **Lee** [WP96]. **Legacy** [Goe16, RCC$^+$06, Kra16, McC04]. **Leipzig** [Ben34, Deh36, Wil36]. **Lekcii** [Dir68a, BDH70]. **Lektsii**

[Dir99, Dir02, Dir05b]. **L'électron** [Som34, dB34]. **Lemaître** [Dir68e, Dir72e]. **lengths** [ES10]. **lensing** [LBNZ98]. **Leopold** [Dir52b]. **Let** [Kra17]. **Letter** [Aur71]. **letters** [Réd05]. **Level** [Bus10, Tiw12]. **Levinson** [Kla90]. **Library** [CMO00]. **Lichtgeschwindigkeit** [Pei35, Tak31]. **Lichtquantenhypothese** [Bos24]. **Lie** [DW09, FZ91, ML93, Pen99, UB83]. **Life** [Cas10, Dys10, Far09b, Gun15, RS10, Sti13, BDH+89, BR64, Dal87b, Dir83a, Far16, Gre05, Kem87, Pai98, RRK+64, Roz67, BDH70]. **Life-Changing** [Gun15]. **lifts** [Oev88]. **Light** [Bos24, CR12, Fin00, Irv83, Lee23, Ano18, Dav98, KD33, Kra06, Lee21, Lou83, Pei35, Tak31]. **Light-cone** [Fin00]. **Light-Quantum** [Bos24]. **Like** [MRB75, DH32a, IS10a, IS10b, LC98, WP96]. **Limit** [BCJT16, CP68, MWF07, Sch06, SCPA04, All03]. **Limitations** [Ano34a]. **Limits** [FA10, MWF07, Neu33, SCPA04, WBR76, Rob85]. **line** [Gre77, HJKS91]. **linear** [GS84]. **Lines** [MWF07, SBK+08, SCPA04]. **Lippmann** [DJ95]. **List** [Meh87c]. **Literaturberichte** [Som34]. **Literature** [Som34]. **Little** [Dir80f]. **liv** [BR64, RRK+64]. **livre** [Ano05]. **Lobachevskian** [Ker90]. **Local** [BF12, Hes73, KM12, SV95, Cra93, FGM+96, IV85, IV87, IK91, Jin91, MB90, dG80]. **localizable** [Dir48c]. **Localized** [Rad96]. **Löchertheorie** [Pei35]. **Lodge** [Ano30]. **Logic** [Dir54b, Tau61a]. **logical** [Med89]. **logicheskie** [Med89]. **London** [Aur71]. **Long** [Dir73c, Dir73d]. **Lorentz** [sC78, Coh70, DPP42, Dir45a, Dir45c, Dir53b, DPP97, Eeg80, GLMR94, GPS86, Rob85, RL68, San79, Son99, Ten68, Wig39, Wig89]. **Lorentz-transformations** [Eeg80]. **Lorentzian** [IK91]. **loss** [SWO76]. **Lost** [Aug95]. **Lösung** [SM35]. **Louis** [Ble86, Bou01, Sch85, Tor87, BVV84, Dav98, dBDW+84]. **Love** [Gun15]. **Low** [Ano08, MWF07, SCPA04, BtGW95]. **low-energy** [BtGW95]. **Lucasian** [KN03]. **lumière** [Dav98]. **luminaries** [Bri95a]. **Lyman** [SBK+08].

M [Ano85, Ano10, Anoxx, Ben34, Bro06, BP79a, Cha73, CH16, CMO00, Dal87b, Dal95, Dar96, Dav36, Deb13, Dir37c, Dir40, Dir80a, Dys87, Eli87, Eps35, Ett31, Fis10b, Fis12b, Got11, Hal78, Hei30a, Hei30b, HK93, Hov96, Jär64, Kil76, Kri87, KMPD85, LW78, Lan87a, LJ31, MS87, Med90, Meh72, Meh87b, Meh87c, Oak00, Pau30, Pol58, Sch69, Sch94b, Smo84, Suc67, Tem35, War96, Wil36, Wri16, Wil36]. **Mach** [BP95, BD61, Dic61, Dir61a, HND+62, PD62]. **Machian** [Son99]. **MACSYMA** [TM85]. **made** [Haw11, Sch94a]. **magic** [Wil03]. **Magnetic** [CT83, Dir48a, Dir77e, For63, God87, Hoy87, Inf53a, Kol67, MC70, MKS+13, Pic81, Sch06, Ama68, AC72, BK76, BB85, Beh85, BM70, BG90, CK78, CH02, Cor86, Dir25a, Dir48d, Dir76c, Dir84d, Gre77, Hau72, LMV91, Lub75, MG87, Ogu96, Ros83, Rou84, Som34, TCC97, Vil95, YI90, dB33, dB34, Dir74f]. **magnétique** [dB33, dB34, Som34]. **Magnitnii** [Dir74f]. **Main** [Ano34a]. **Majorana** [RCC+06, Ano08, ACM10, Esp08, ES10, Esp12, EAW15, Fio06, FK08, Gar84, GG11, MRB75, MZF+12, zXZ06]. **Majorana-neutrino-mass**

[Gar84]. **make** [Dir81a]. **makers** [CM86]. **making** [Bel99]. **Man** [Cas10, Dys10, Far09b, Kib98, RS10, Sti13, Far09a, Far16, God98]. **manifold** [MB90, MB91, Mar88]. **manifolds** [GNH78]. **Mann** [MHN98]. **Many** [Bri18, Kat00, Dir29b, Dir30d, DFW99, RdO07, RdO16]. **many-electron** [Dir30d, DFW99]. **Many-particle** [Kat00]. **MAPLE** [Vul03]. **Marcel** [Ruf82]. **Mass** [HN71, IRV$^+$08, SBK$^+$08, Car94, CKYY07, Gar84, IS10b, KY01, KBN83]. **masses** [Mal75b, Mal75a]. **massive** [AW17, Dar90, KL92, PR86]. **massless** [Bor85, Nil82]. **matemática** [Bas08]. **materials** [WBSB14]. **Materiewellen** [Deh36, Haa34]. **materja** [Inf33]. **Math** [Szm99]. **Mathematical** [GG02, CH16, Dir78d, EAW15, Mur71, vEdG85, vSJLEdJG86, Mar65]. **mathematically** [Bel91]. **Mathematics** [Dir82e, Bue05, Dir39c, Dir82a, Dir85, FF91, Pen97, KN03]. **Mathisson** [Dir40]. **Matrices** [Goo55, IKRT89a, Lee95, Mor85, Pod97]. **Matrix** [KMW86, MR82b, Dir30d, Hos87, IKRT91, NM84, Szm98, Szm99, Wig01, WY84, ZQ90]. **Matter** [Ano30, HND$^+$62, Plo15, Ano18, Bat07, Dir77b, DRF17, Inf33, Inf34b, Haa34]. **matters** [Rei72a, Rei72b]. **Maurice** [Ano52, Ano83a, Ano83b, DP86, Hal85, Hen89, KW87, Pei85, Ram89, Sch88, Stu88, Wig88, Dir74d]. **Max** [Fis10a, Fis12a, Ano52, Fis10a, Fis12a, Gre05]. **Max-Planck-Medaille** [Ano52]. **maximum** [LR79, LRK80]. **Maxwell** [Bri18, BCK97, BR97, Can98, Cha72, DK89, Das93, Das96, Faz15, GS79, HD77, KBN83, LU31, LCH10, PR86, Rad96, RA11, RdO07, RdO16, Sch41, SM03]. **May** [Ano18, Car01]. **Mayer** [PS32a, PS32b]. **McDougall** [Fuk14]. **Me** [Ber09]. **Mean** [KK10, dB32a]. **Meaning** [Jor59a, Smo93, Dir50c, Som36]. **Means** [LR59, Eeg80, Fer86, IKRT89b]. **meant** [Kem87]. **Measure** [LR59, Nak00, Nor65, Nor90, Zas89]. **Measurement** [Neu33, Hal78, Pet85, Pet88]. **measurements** [Rob85]. **measures** [Nak97]. **mecánica** [Dir54a, Dir67b, Dir68c, Dir69e]. **mécanique** [Dir30h, Dir31a]. **mechanical** [Lan30, Lan05a]. **Mechanics** [DL82, Dir25e, Dir26a, Dir26d, Dir26e, Dir30b, Dir30f, Dir32a, Dir35c, Dir47b, Dir54d, Dir55d, Dir58c, Dir59e, Dir67a, Dir67b, Dir67e, Dir67c, Dir68c, Dir69e, Dir81d, Dir03c, Dir05a, Dys07a, Fey48, GG02, GGK02, GL23, Har28, HSD34b, Mar65, MR82b, Nis32, Sei36, Tau61a, Wey31b, Wey50, vdW67, Ant69a, Ant69b, Bok04, CY91, Dir26f, Dir26c, Dir27a, Dir27e, Dir29a, Dir29b, Dir31a, Dir32b, Dir33b, Dir33c, Dir37a, Dir37d, Dir39b, Dir42e, Dir45b, Dir51d, Dir55b, Dir64b, Dir64c, Dir64f, Dir66a, Dir67f, Dir68a, Dir69a, Dir72d, Dir73f, Dir74c, Dir77d, Dir82b, Dir99, Dir01, Dir09, DR93, Fei02, FH65, FHS10, FK70, Got11, Haa34, Jär64, JT10, Mat87, MR82a, MR82c, Meh87a, MR87, MR00, MS68, Pol87c, Tjo75, vEdG85, vdW68, vdW07, Eps35, LJ31, Pol58, Tem35, Hei30a]. **Mechanics** [Dav36, Hei30b, Pau30, Bro06, Dra23, Kra13]. **Mechanics.** [Ett31]. **mechanique** [Dir53c]. **mechnanics** [Dir54a]. **Medaille** [Ano52]. **Medal** [Ano85, Ano13]. **medarbejdere** [BR64, RRK$^+$64]. **méecanique** [Dir90a]. **Meeting** [CCJ$^+$34, Pei87a, Ruf82, Wig87a, Wig96a, Hal78]. **Mehra**

[Dys74]. **mekhanike** [Dir68a, Dir99]. **Mekhaniki** [Dir32a, Dir60c]. **Mem** [Dir61b]. **Memo** [BBD+46]. **Memoirs** [Dir05b]. **Memorial** [And88, Ell91, Pei87a, SDEW90, dG97, Dir71a, FW87, Haw98, Pei92, Rei72a, Rei72b, Wig87a, Wig96a]. **Memories** [Dir88a, Dir88b, Dir90d, Kir97]. **memory** [Ano85]. **men** [Sch94a]. **Mensch** [Far16]. **mérés** [Neu33]. **Merwe** [Ble86, Sch85, Tor87]. **Mesotron** [Kap40]. **meteorites** [PD62]. **Meteorology** [Tau63c]. **Method** [BCJT16, Pau43, Tau49, BO92, Cra88, Fuk14, GL92, Inf53b, LCH10, NM01, RSK99, SM35]. **Méthodes** [Dir53c]. **Methods** [Dir69d, Dir82d, Dir89, Har28, Dir30a, Dir41, Dir64c, Dir70b, MKK05, RS87]. **Metric** [Lee23, Hei72, HM99b]. **metrics** [IK91, SC92b]. **Metrological** [IC04]. **Miami** [KPS+78, KP83, Sta87]. **microwave** [Han99, YS03]. **Mills** [LH86, RTV99, Tol98, Lan01, MB90]. **Mind** [Hür22, II08, WD06, Sno73, Bus10]. **minds** [Pic08, Wal09]. **Minkowski** [GLMR94, KLMW88, Pod97, RK96]. **Miramare** [Meh73]. **mirror** [HW96]. **Mixed** [Lub75]. **Mode** [DJ95]. **Model** [GD10, Lee23, Mon95, Das96, Dir62c, ERW75, Gab13, KM04, OS81, RM95, WP96, Wot91]. **Modeled** [Csa92]. **Modelers** [Lak96]. **Models** [Dir74b, Dir81c, Lak96, All03, Len14]. **moderation** [LT04]. **Modern** [BBBM90, Far03, Gib19, HSD34b, L.88, Bra09, Inf34b, Nor65, Nor90, ZdSS91, HSD34a]. **moderne** [Ben34, HSD34a, Wil36]. **modification** [IP57]. **Modifications** [MR82b]. **modified** [Bel85, IP56]. **Molecular** [DN96, McW73, QGW01]. **Molecules** [FK07, BBSF10, ERW75, EG84]. **Möller** [Ano67]. **Moment** [Roz20, BK76, BB85, Beh85, Ogu96, Rou84]. **momentum** [Dat04, DMH85, Nak00]. **monatomic** [Fer26]. **monobromide** [BBSF10]. **Monografii** [Dir02]. **monograph** [Bus10]. **Monographs** [Dir02, Sch85]. **monopol** [Dir74f]. **Monopole** [Ble76, Che77, Fer49, HSZ76, Kol67, MC70, Pic81, RZ80, BB85, BG90, CK78, Coq85, Cor86, Dir77e, Dir78e, Fre95, Gre77, IU86, Kra81a, LMV91, Lub75, Lub82, MG87, NdlC08, Oli98, Pos84, TCC97, Vil95, Yan78b, Yan78a, YI90]. **Monopoles** [For63, Hen83, MKS+13, Sch06, CT83, Dir74f, Dir76c, Fre95, God87, Hoy87, LBNZ98, Ros83]. **Moon** [Dir80g]. **moons** [RA11]. **most** [EM33a, Haw11]. **motion** [Dir42c, Dir64e, Dir69b, Dir70a, Dir71d, Dir74a]. **motions** [AW95]. **moving** [Bet83]. **moyennes** [dB32a]. **multicomponent** [YZ08]. **Multiconfigurational** [VIK98]. **Multiplication** [Dir43a, Dir42d, PFD43]. **Multiscale** [BCJT16]. **multivectorial** [KRR90]. **Must** [Ano30, Far03]. **My** [Dir83a, Dir03a, HC87, Dir87a, Kem87]. **Mystery** [Ano30, FR13]. **Mystic** [Cas10, Dys10, Far09b, RS10]. **mystifying** [Lut07].

N [Hen89, L.88, Ram89, Sch88, Stu88]. **Nach** [Dir60b, Sei36]. **näherungsweisen** [SM35]. **Named** [Ano33, BBC+94]. **nanowire** [MZF+12]. **Nation** [Ano33]. **Natural** [McW73, EM33a, LT04]. **Nature** [Dir63a, Dir87c, Gam68, HN71, Kra19, Wil58, Alp73, Bar02, Dir71b, Dir73a, Dir74e, Meh73, Zic88, Dys74]. **natürlichsten** [EM33a]. **Naturwissenschaft**

[Smo93]. **nauchnych** [Koz90]. **Nauchnye** [Dir03b, Dir04, Dir05b]. **Nauchnykh** [Dir02, Dir03b, Dir04, Dir05b]. **nauki** [Inf33]. **Near** [Dat95]. **Negative** [Ano30]. **neobychajnoj** [Dir90d]. **Neobychaĭnoĭ** [Dir90c]. **net** [Sel94]. **Neuberger** [HJL00]. **Neue** [Ben34]. **Neumann** [F$^+$00, Mar65, Réd05, Tau61a, Tau61b, Tau63a, Tau62, Tau63b, Tau63c, Tjo75, vN96]. **Neurons** [Kir97]. **neutral** [BB85, Csa81, Ogu96, SV93]. **Neutrino** [GLR14, Gar84, KM84, PR86, Gar84]. **neutrino-electron** [Gar84]. **Neutrinos** [Fio06, zXZ06, Ano08, CGKS94, CT12, Fra04, HM99a, CT12]. **Neutron** [Dir42d, Dir43a, JRF06, LT04, VKA21, PFD43]. **Newman** [EF77, KM92]. **Newton** [BP95, KN03, LBNZ98, WW86]. **Niels** [BR64, Dir64g, Dir67d, Kra17, RRK$^+$64, Roz67]. **No** [EKI94]. **No-Pair** [EKI94]. **Nobel** [HSD34a, Ano33, Ano34b, Ano65, Bri95a, DS83, Gre05, HSD34b, LW34, Pau45]. **Nobelpreis** [Ano51]. **Nobelpreises** [HSD34a, Wil36]. **Nodes** [Dir26a]. **Non** [Fey48, FSY00, Har28, Dir42a, Dir42d, Dir55c, FZ91, MB90, MB91, Mar88]. **Non-Coulomb** [Har28]. **Non-existence** [FSY00]. **non-Lie** [FZ91]. **non-orthogonal** [Dir55c]. **Non-Relativistic** [Fey48]. **non-Riemannian** [MB90, MB91, Mar88]. **non-scattering** [Dir42a]. **non-uniform** [Dir42d]. **noncompact** [BT90]. **noncovariant** [CY91]. **nondiagonal** [SC92b]. **Nondispersive** [Hil92, SBZ90]. **nonexistence** [Zas89]. **nonextensive** [JT10]. **nonextensive-statistical-mechanics** [JT10]. **nonfactorizable** [HM99b]. **Nonlinear** [Bou08, Ker83, KK10, AKV83, FZ91, PSA94, RU81, SES82, SOS84, Tak79]. **Nonrelativistic** [BCJT16]. **nonstandard** [LW75, Nak97]. **Nonunitary** [yRSBSV99]. **Nordström** [FSY00]. **norm** [Tam03]. **Normal** [DJ95, Tha88]. **Normal-Mode** [DJ95]. **North** [BCEP94]. **Notation** [Ano67, Dir39b]. **Note** [Dir24b, Dir24c, Dir30c, Dir30d, Dir55c, Wal76, Tjo75]. **Notes** [AG13, Pei42, RS10, Bel82]. **nothing** [Wea16, Ryc17]. **novel** [SBZ90]. **November** [Hal78, Lan87a]. **Nowe** [Inf33]. **noyaux** [CCJ$^+$34, Sch72]. **Nuclear** [Irv83, Mau76, Mla98, Stu18, Wig96d, AG13, Kae48, RC13]. **Nuclei** [CR12, CCJ$^+$34, Sch72]. **nucleosynthesis** [Kha86, KPW86, YS03]. **Nucleus** [FR13]. **null** [KM84]. **number** [DOV02]. **Numbers** [Alp73, Dir74b, Dir75d, Dir78c, Dir79g, Bar02, D'A02, Hes75, PP71]. **Numerical** [Csa92, HJL00, Pic89, Sei99, Tau63b, AME14, AKV83, LCH10, NK93, SM91, SFVW95, SG11, F$^+$00]. **Numerology** [Gam68]. **NUT** [CV02, LBNZ98].

O [Ble86, Sch85, Tor87, Bel82, Dir90c, Dir90d]. **Obey** [Kap40]. **Obituary** [Bin00, DP86, Dir40, Dir61b, Dir75e, Pei85]. **Objects** [Gam67d]. **oblate** [DFPP43, PFD43]. **Observables** [Hes75, Cor07, Hes73]. **observational** [Uza03]. **Observations** [VKA21, FA10]. **observed** [Dic59]. **Obtain** [Ano34a]. **October** [CCJ$^+$34, DP86, Far01, RCC$^+$06]. **octobre** [CCJ$^+$34]. **octonions** [Köp06, MB91]. **odd** [Paĭ90]. **odyssey** [SG11]. **off** [Wig01]. **off-diagonal** [Wig01]. **Oklo** [LT04]. **Old** [Dic59, PB68, Zic88, Zic88]. **Oliver**

[Ano30]. **OM** [Dal87b]. **Omega** [Bar02]. **onde** [dB32b]. **One** [Gib19, Gun15, Kir97, NP96, Wal09, AKV83, Dar90]. **One-dimensional** [NP96, AKV83]. **ongoing** [Das96]. **ontology** [Wri16]. **Open** [Bok04, KL92, VC02]. **Operator** [DJ95, HJL00, Hin77, Neu00, Szm98, Szm99, Ara93, BT90, Cla94, Dir37d, FG87, FSS98, Fei02, HW90, KMW86, KLMW88, Lan01, Mil98, Pen99, Pod97, Tam03, Tha88, Tol98, Tra92, de 89]. **Operators** [GZM05, Tau63a, All03, BILP03, CV02, DEŠ89, FGM+96, Hes75, KY01, KM84, KLMW88, Kla90, LR79, LRK80, Olv86, Wil98, WY84, Zor80, de 91, Tau61b]. **Oppenheimer** [Ano34a, Dir71a]. **Optical** [CR12]. **optics** [Bat07]. **Orbis** [Per80, KPS+78, KP83]. **Orbit** [Löw64]. **orbitals** [Tal04]. **Orbiting** [RA11]. **orbits** [Hal87]. **Order** [Mac98, Rho50, VIK98, Hos87, Hos89, Kru94]. **Orders** [CT67b, CT67a]. **organized** [Ruf82, Sal69]. **Organizing** [Dra23]. **Origin** [Dir83b, Cor70]. **Original** [Ano34a]. **Origins** [Moy81b]. **orthogonal** [Dir55c, Vil90b]. **orthogonally** [KM84]. **oscillator** [Cra93, DST92, LMV91, MSB92, de 91]. **Osnovy** [Dir32a, Med89]. **Other** [L.88, K.L88, Tau62, Bri95a, Rei72a, Rei72b, Sha87]. **Our** [Bek86, Dir71b]. **Overlap** [Neu00, Tal04]. **Owen** [Ryc17]. **Own** [Bek86]. **Oxford** [RS10].

P [And88, Bel73, Ben34, Dal87b, Dar96, Dav36, Dir37c, Eps35, Ett31, Hal78, Hei30a, Hen89, Hov96, Jär64, Kil76, KMPD85, L.88, LW78, LJ31, Pol58, Ram89, Sch69, Sch85, Sch88, Stu88, Suc67, Tem35, War96, Wil36, Ryc17]. **P.** [Ano85, BP79a, Cha73, Dal95, Dar96, Dir80a, Eli87, Got11, Hei30b, HK93, Jär64, Kri87, MS87, Med90, Meh72, Meh87b, Meh87c, Pau30, Sch94b, Smo84, Wri16]. **P/b** [Sch85]. **packet** [SBZ90]. **Padé** [Rod80]. **pages** [RS10]. **Pair** [EKI94, KM84, EKI94]. **Palais** [Dir48e]. **Pantheon** [Lee21]. **paper** [Dit15, Pei42]. **Papers** [Ano75, Anoxx, Dir03b, Dir04, Dir05b, HDW75, Sch58, Sch03, vN96, CH16, DPI71, DP97, Dor82, GG76, Haw11, Oak00, Wig96d]. **para** [JM99]. **para-supersymmetry** [JM99]. **Parameter** [Som36, KM84]. **parameters** [DW09, Som36]. **Part** [MR87, Dir43a, Har28, PFD43, Wig96d]. **Particle** [BH83a, BH83b, Dir24c, Dir73h, Roz20, Ser12, AW17, BB85, Bou01, BG90, Bro77, BH82, CY91, Dir64e, DP03, FA01, IT84, IT88, Kat00, LCH10, Nil82, OS81, Ogu96, Rou84, SMI83, SS98, Son99, dB51]. **Particles** [And88, Ano18, Dir62e, Cor70, Dar90, Dir74a, Dir86, FW87, Fis10a, Fis12a, Kos86, KP83, Mil07, PB68, RS84, Riv94, SV93, Sri83, dB52a]. **particular** [CGKS94, MN97]. **particule** [Bou01]. **particules** [dB51, dB52a]. **partir** [BI34]. **partnership** [BR87]. **Pascual** [Kra15b]. **Passion** [Jon08]. **past** [Pet11]. **Path** [Nak97, Nak00, OS81, PS79, Bel82, FH65, FHS10, IT84, KY93, Len14, Rum86, SS72, SH99, Zas89]. **path-integral** [SS72]. **path-space** [Zas89]. **pathways** [Inf33]. **Paul** [Ble86, Cas10, Dar91, Dir74d, Dys10, Far16, Hen89, L.88, Ram89, RS10, Sch85, Sch88, Sti13, Stu88, Tor87, Wig88, Wig96a, Ano52, Ano83a, Ano83b, Ano10, Anoxx, BvdM83, BVV84, Bok08, Bri95b, BR87, Bro06, Cas85, CH16, CMO00, Cri18, DP86, Dal87a, Deb13, Dir87a, Dys87, Far09a, Far09b, Far16, Fis10b, Fis12b, God98, Hal85, Kem87, Koz90, Kra13, KW87, K.L88, Lan87a,

Lan87b, McC04, MB11a, Mot87, Oak00, Pai98, Pai00b, Pei85, Sno73, Tay87b, Wal09, Wig87b, Wig96c, dBDW+84, Kib98]. **Pauli** [CV02, Dit15, GH75, Hor11, JW28, Sch99]. **Paulische** [JW28]. **PC** [IKRT91]. **peace** [Kra17]. **pedagogy** [BN13]. **Peierls** [DP97]. **perfect** [IV85]. **perfection** [Dir79m]. **Periodic** [Tau61b, FSY00, NP96]. **Perlman** [Dir64a]. **permeate** [BMP14]. **personal** [Oak00]. **perspective** [Dir75c, Kra06]. **perspectives** [HE82]. **Perturbation** [Kis98, Löw64, Zor80, Dir55c]. **Peter** [L.88]. **Phase** [Lin10, Nil82]. **Phase-integral** [Lin10]. **phenomena** [Dir30c]. **phenomenological** [EAW15]. **Philosophy** [UM86, Dir37c]. **Photo** [Ano83a, Ano83b, DH32a]. **Photo-electric** [DH32a]. **Photon** [MRB75]. **Phys** [Szm99]. **Physical** [Dir27b, Dir37c, Dir87c, Dor82, GL23, Tel48, D'A02, Dic59, Dir42e, Dir68b, Dir84c, Dir84e, ES10, Jor37, Pet85, Pet88, DSK72]. **physiciens** [CT12]. **Physicist** [Dir63a, Dys74, Hen89, Ram89, Sch88, Stu88, Dir73a, Dir83a, Gre05, KW87, Meh73, L.88]. **Physicists** [Ano33, Gun15, Hür22, Ser12, vW02, CT12, Fre87]. **Physics** [And88, Ano34b, BDH70, BH83a, BH83b, Bun82, Dir76a, Dir76b, Dir84b, Dys93, Gam85, Hal78, HSD34a, Hen84, HK93, Irv83, Koz90, Kra82, Kur73, McW73, Med90, Meh73, Mla98, Pau45, RCC+06, Rob85, Ruf82, Ryc17, Sch85, Stu18, Suc67, Zic88, AG13, Ano65, BN13, BDH+89, Bra09, BH82, BP79b, CM86, Dir39c, Dir53a, Dir69d, Dir70a, Dir70b, Dir71c, Dir71d, Dir77a, DHS78, Dir80d, Dir81b, Dir82d, Dir89, Dor82, EAW15, FF91, FW87, Gam66a, Gam66b, Gam72, Haw11, IPM73, Kae48, KHFA67, KPW75, KPS+78, KMPD85, McC04, Meh72, Meh75, Meh87b, Per80, RC13, Rec97, Sal69, SS03, Str11, Wea16, Wei77, Zic00, CCJ+34, L.88, LW34, Wig96d, Str71]. **Physik** [Ano51, Dir53a, Dir77a]. **physikalischen** [Jor37]. **Physiker** [vW02]. **physique** [CCJ+34]. **Picture** [Dir63a]. **Pictures** [Dir64a]. **piece** [Wil03]. **Pierre** [Ble86, Tor87]. **pilot** [Col12, dB52b]. **pilot-wave** [Col12, dB52b]. **pilote** [dB52b]. **Pinpointing** [Ano12]. **pioneers** [DR93]. **Planar** [CH02]. **Planck** [Ano52, BF12, Fis10a, Fis12a, Ano12, Bos24, Cra88, Fis10a, Fis12a, Inf61, Inf63, KM12, MR82d, MR82e, Noe73, Peg77, WB78]. **Plancks** [Bos24]. **plane** [BN72, DK89, Kim80a, Mur71]. **plane-wave** [BN72]. **play** [MB11b]. **Playing** [Pai87]. **plus** [DSP03]. **Pluto** [RA11]. **Poet** [Ano33]. **Poincaré** [Dir72a]. **point** [All03, Dir48b, Ric03]. **point-circle** [All03]. **Poisson** [FLS76, Lan72]. **Pol″** [Koz90]. **Poles** [Dir48a, Ama68, AC72, Dir48d, Dir84d]. **Polish** [Inf33]. **politics** [Sch99]. **polya** [Dir90b]. **Polygamma** [Din58]. **Polymath** [Har01, Hen89]. **polynomials** [MR10]. **Pontifical** [Dir80c]. **Pontificia** [Buc80]. **pontosságának** [Neu33]. **Portrait** [Pai00a]. **portraits** [Far01]. **Position** [BF12, Hin77, KM12, Dic59]. **Positioning** [BF12, KM12]. **Positive** [Dir71f, Dir72c, Dir73h, Dir71e, Gam33, Pei34]. **Positive-Energy** [Dir71f, Dir72c, Dir73h, Dir71e]. **Positron** [Dir75a, HE06, Mon95, Pas12, CDK90, Dir34a, Dir34c, Dir34b, Dir84a, Far10, Gol05, Hei34b, Hei34a, HE35, Maj37, BBC+94]. **positrone** [Maj37]. **Positrons** [Dir34d, Hei34b, Dir65b, Dir91b, Hei34a, HE35]. **possibility** [Mal75a, Mal75b]. **Possible** [Han99, JRF06, Dir71d, Vul03]. **Possibly**

[Can98]. **Post** [Ano34b]. **posteriori** [ABR06]. **posters** [Ano02]. **Postscript** [Sch94c, Mit10]. **potential** [Ara93, BC78, DEŠ92, DSP03, GS84, Hyl84, IS10a, IS10b, IU86, KY93, yRSBSV99, RU81, SMI83, Vil95, YI90, de 89]. **potentials** [BCK97, BM70, Cor70, Cri76, Fin00, SCSB93]. **power** [SMI83]. **pozitrona** [Dir34b]. **Pp** [Hen89, War96, Dre90, Dys10, Suc67]. **Precisely** [Cor07]. **Precision** [Csa92, Fer86]. **predict** [Far10]. **predictable** [Cor07]. **Prediction** [Dir78h, GLR14, Pas12, Gol05]. **Prehistoric** [Irv83]. **Prehistory** [Dir80f]. **Preis** [Ben34, Ble86, Deh36, Wil36]. **Prejudice** [Dir76a]. **prejudices** [Dir77a]. **Preliminary** [Dir26e, Dir67c]. **Presence** [MC70, AD87, Fin00, Hau72, HM99a, SV93, SS98, Vil95, YI90]. **Present** [Dir83c, Dir59f]. **presentation** [Ano65]. **presented** [Dor82]. **preservation** [Oak00]. **Press** [Ble86, Dre90, Hen89, Hen91, RS10, Ryc17, Sch85, Suc67, War96]. **Presymplectic** [GNH78]. **Pretty** [Dir82a, Dir82e, Dir85]. **previous** [Dat04]. **Primordial** [Noe73, Kha86, KPW86]. **principe** [Bor49]. **principes** [Dir31a, Dir90a]. **Principios** [Dir67b, Dir68c, Dir69e]. **Principle** [BD61, Dic61, HND$^+$62, Plo15, BP95, CGK72, Dir24b, Dir74a, LR79, LRK80, PD62, Dir61a]. **Principles** [Bro06, Dav36, Dir30b, Dir30f, Dir35c, Dir47b, Dir58c, Dir59e, Dir67b, Dir67e, Dir68c, Dir69e, Dir81d, Dir03c, Dra23, Eps35, Ett31, Hei30b, LJ31, Plo15, Pol58, Tem35, Dir31a, Dir09, Hei30a, Jär64, Jor52, Jor55, Kra13, Pau30]. **Printsipy** [Dir60c]. **Prinzipien** [Dir30b]. **Priscilla** [BBC$^+$94]. **Prism** [UM86]. **privedshem** [Bel82]. **Prize** [HSD34a, Pau45, Dir71a, Ano33, Ano34b, Aur71, DS83]. **Prizes** [LW34]. **probabilistic** [Leh91]. **Probability** [Kos86]. **Probe** [IRV$^+$08]. **Problem** [DJ95, Cha72, Cor70, Cor86, Dir30d, Dir33c, Dir80g, IU86, NdlC08, YI90, ZdSS91, Sta12]. **problèmes** [Dir30h]. **Problems** [DH32b, JP73, Nis32, All04, Ant69a, Ant69b, ABR06, BM98, Dir71c, PB68, Str71]. **procedure** [PSA94]. **Proceedings** [Dys74, KP83, Zic88, Hal78, Kur73, KPS$^+$78, Per80, Sal69, Wat91, BB03, BCEP94, Ruf82]. **processes** [Car94, Dir36a]. **product** [Mor85]. **Production** [Sch06]. **Prof.** [Ano34b, Dir37c, Dir61b]. **professional** [Bus10]. **Professor** [Dal87b, Fre87, HC87]. **Professors** [KN03, Nis35a, Nis35b, LW34]. **Profs** [Ano33]. **program** [BDM81b, BDM84]. **prohibition** [JW28]. **Projections** [RK96]. **Projective** [Sch91a, TVvN34]. **Proof** [Bar81]. **propagating** [CGKS94]. **Propagation** [IT84]. **propagator** [AW95, IJ02, Rum86]. **propagators** [RR93]. **Properties** [Ara93, Goo55, Beh85, CCJ$^+$34, GZDA01]. **property** [Mur71]. **propriétés** [CCJ$^+$34]. **Proton** [Dys67, Mon95, SBK$^+$08, CKYY07, Dir30g]. **proton-electron** [CKYY07]. **Proton-to-Electron** [SBK$^+$08]. **Protons** [Dir30i, Dir30e, Dir30j]. **Proximity** [FK08]. **Pseudospectral** [BCJT16]. **pseudospheres** [Cla94]. **pseudospin** [IS10b]. **Psi** [Din58]. **pure** [Ric03]. **Puti** [Dir83d, Bel82]. **Putting** [Wil93b].

QED [Sch94a]. **quadrature** [MKK05, Sag91]. **quanta**

[Bor49, Inf33, Inf34b, Lub82]. **Quantelung** [Fer26]. **Quantengenies** [Far16]. **Quantenmechanik** [Deh36, Dir27e, Haa34, Dir30b, Wey31a]. **Quantensprung** [Fis10a, Fis12a]. **Quantentheorie** [Dir28f, Dir28d, Dir28e]. **quantification** [Dir49c]. **quantique** [BI34, Dir30h, Dir31a, Dir53c, Dir90a]. **quantisation** [Her18]. **Quantised** [Dir31b]. **Quantities** [WBR76]. **Quantization** [Pau43, Riv94, AT94, BV85, CDK90, Dar90, Dir49c, Dir68d, Fer24, Fer26, OS81, OP95, PSA94, SS72, YI90]. **quantized** [BSW98]. **quantizzazione** [Fer24]. **Quantum** [Ano75, BVV84, Bel73, Bel99, Bos24, Bro05, Bro06, Dav36, DL82, Dir25e, Dir26a, Dir26d, Dir26e, Dir27b, Dir27d, Dir29b, Dir30b, Dir30f, Dir32a, DH32b, Dir35c, Dir43b, Dir47b, Dir48c, Dir54d, Dir55d, Dir58c, Dir59e, Dir65a, Dir67a, Dir67b, Dir67e, Dir67c, Dir68c, Dir69e, Dir81d, Dir82f, Dir83b, DPP97, Dir02, Dir03c, Dir03b, Dir04, Dir05a, Dra23, Dun12, Dys07a, Dys10, Eps35, Ett31, Fey48, FH65, FBD05, FHS10, GG02, GGK02, Gam85, GL23, Hei30a, Hei30b, HSD34b, HDW75, Hür22, II08, Jon08, LJ31, Mar65, Nis32, Plo15, Pol58, RS10, Sch69, Sch85, Sch94b, Sch58, Sch03, Suc67, Tau61a, Tem35, Wey31b, Wey50, dBDW$^+$84, vdW67, Ant69a, Ant69b, BN13, BP95, Bok04, BI34, Bor49, Bro77, Col12, Dir25b, Dir26b, Dir26f, Dir26c, Dir27e, Dir27c, Dir28f, Dir28d]. **quantum** [Dir28e, Dir28b, Dir28c, Dir29a, Dir31a, DFP32, Dir32b, Dir33b, Dir33c, Dir35b, Dir37a, Dir37d, Dir39b, DPP42, Dir42e, Dir45b, Dir46, Dir47a, Dir49a, Dir51d, Dir55a, Dir55b, Dir57b, Dir62a, Dir64b, Dir64c, Dir64d, Dir64f, Dir66a, Dir66b, Dir67f, Dir68a, Dir68b, Dir69a, Dir71a, Dir72d, Dir73f, Dir73g, Dir74c, Dir77d, Dir78d, Dir82b, Dir87d, Dir99, Dir01, Dir09, DR93, Ehb22, Ehb23, Far16, Fei02, Fis10a, Fis12a, F$^+$00, Gam66a, Gam66b, Gam72, Got11, Gre05, Haa34, Haw11, Jär64, Jos72, Kra13, KHFA67, Len14, Lip87, Lou83, Mat87, MS87, Med89, MR82a, MR82c, MR82d, MR82e, Meh87a, MR00, MB11b, Pau30, Pod97, Pol87c, SW72, Sel94, Str11, Tjo75, vEdG85, vdW68, vdW07, Ble86, Dir54a, Tor87, Bus10]. **quantumelektrodynamischen** [Jär64]. **quark** [Dir77c]. **Quasars** [MWF07, SCPA04]. **quasiclassical** [YI90]. **Quasistellar** [Gam67d]. **quaternions** [Dir45a, MB91]. **Quelques** [Dir30h, Dir48e, dB33]. **Quest** [Ble86, Sch85, Tor87, BVV84, dBDW$^+$84]. **question** [BP79b]. **quintessence** [AG03].

R [Dar96, L.88]. **R.** [Dir61a, War96]. **R.S.** [Dir61b]. **Radial** [BBR85, ROB64, SWO76, IJ02, IM95, Lin10, SFVW95, SG11]. **radiating** [Dir38a]. **Radiation** [Dir27d, Noe73, Dir25c, Ehb22, Ehb23, Web87]. **Radium** [Kae48]. **Raleigh** [BCEP94]. **random** [RR93]. **range** [BC78, Dir73c, Dir73d]. **Rank** [Kir97]. **Rank-One** [Kir97]. **Rapports** [CCJ$^+$34]. **Rate** [Dir43a, PFD43]. **Ratio** [SBK$^+$08, CKYY07]. **Rational** [CT67a, CT67b, SS11, D'A02]. **Ray** [Sei36]. **Rayleigh** [WY85]. **Razmyshleniya** [Dir05b]. **reactor** [LT04]. **Reactors** [Irv83, Mau76]. **Realism** [Pas12]. **realities** [WD06]. **Reality** [RS10]. **really** [Fra04, Nor86]. **realm** [Kae48]. **recalls** [DRFS80]. **reception** [Ehb22, Ehb23, Lub75, MR82c].

Recollections [Dir77f, Dir87e, Dir90c, Lan87b]. **red** [Inf63]. **REDUCE** [Vul03]. **reduced** [Hyl84, Lég95, MHN98, OP95]. **reduces** [IU86]. **reducible** [Vil90a]. **reducing** [GL92]. **Reduction** [Nil82, FZ91, Hos89, LH86, PSA94]. **réécriture** [Dav98]. **reexamined** [GT86]. **reference** [UK82]. **reflection** [KD33]. **Reflections** [RK96]. **reformulation** [Dir60d]. **Regime** [BCJT16]. **Reissner** [FSY00]. **relation** [Bok04, Dir39c, Dir51d, Pau25, Wig72b]. **Relations** [UL31, Bel85]. **relationships** [Lan05b]. **relativiste** [Dir53c]. **relativistes** [LT62]. **Relativistic** [BD61, Dir32b, Dir36b, Dir55d, Dir71f, Dir72c, Dir77h, Dir79h, Dir79i, Dir79j, Dir79k, EKI94, Fey48, Hos87, Sei36, AW17, Das96, Dir49b, Dir55b, Dir59f, Dir62a, Dir71e, Dir77g, Dir77i, DFW99, Gol05, Lip87, PP71, WY85, Kra81b]. **relativistischen** [Sei36]. **Relativity** [Ano62, Dic64, Dir24c, Hov96, Inf34a, Ruf82, Sch31a, Sch31b, Hor11, Rob15, TVvN34, DN96, Dir26f, Dir72d, Dir73f, Dir75g, Dir82c, Dir96, Kil76, Wil93b, Wil05]. **Relaxation** [Col12]. **release** [Dir42a]. **relics** [Lee95]. **relyativistskoi** [Dir59f]. **Remark** [Goa97]. **remarkable** [Dir63b]. **Remarks** [CK78, Wig96b, vN28, dB33, Hei34b, Hei34a, Kim80a, Kim80b]. **remarques** [dB33]. **Remembering** [Wig87b, Wig96c, Wig88]. **Remembrances** [GJEF10, Sha87]. **reminiscence** [Pol87b]. **Reminiscences** [Hen89, Jef87, KW87, Mot87, Eli87, L.88, Sch88, Stu88, Ram89]. **Renormalization** [BJ03, Dir81a]. **Replace** [GH94]. **Reply** [Dir61a, Dir64a, Dir52a, Dir52b]. **report** [KHFA67, Som34]. **Reports** [HSD34b, Dir28a, CCJ$^+$34]. **Representation** [AW95, JP73, CPV10, D'A02, Dat04, Dir63b, Hos82, Hos83, Rum86]. **Representations** [Bor85, DJ95, Wig39, Dir45c, JT10, Lee95, yRSBSV99, NdlC08, Wig89]. **requirements** [Dir84c, Dir84e]. **Research** [BN13, Dic59, Bus10, Sha87]. **Resolvent** [Tam03]. **resonances** [BB85]. **Resonant** [Bou08]. **Results** [Ano34a, Dat95, WP96]. **retrieval** [DSK72]. **Retrospect** [BBBM90]. **reversal** [Dir37d]. **Review** [And88, Bel73, Ble86, Bri18, Bro91, Cas10, Dar96, Dav36, Dre90, Dys74, Dys10, Ell91, Eps35, Ett31, Goe16, Hen89, Hen91, Hov96, Kib98, Kil76, L.88, LJ31, Pau30, Pol58, Ram89, Ryc17, Sch69, Sch85, Sch88, Sch91b, Sti13, Stu88, Suc67, Tem35, Tor87, War96, Her18]. **Revised** [Ano34a]. **revisited** [Rug88]. **Revolution** [Ano18, Kae48, Bel99, CM86, Gre05, Kle05, Ano05, Kle05]. **rewriting** [Dav98]. **Richard** [Hov96, And88]. **Riemannian** [Dir59a, MB90, MB91, Mar88]. **Right** [Wil93b]. **ring** [ML93]. **Rings** [Tau63a]. **rise** [MR82d, MR82e, MR87]. **Robert** [Dir71a, L.88]. **Robertson** [KL90, KL92, VP90, Zec96]. **Rockies** [Van72]. **role** [Dir53a]. **Röntgenstrahlen** [Sei36]. **roots** [PKKL09]. **rotation** [NdlC08]. **rotational** [IV85, IV87, IK91, Jin91]. **route** [Bel94]. **Row** [Dat95]. **Royaumont** [LT62]. **Run** [zXZ06]. **runaway** [CKYY07]. **Russian** [Koz90, Ano33, Bel82, BDH70, Dir32a, Dir34b, Dir59f, Dir68a, Dir74f, Dir99, Dir02, Dir03b, Dir04, Dir90c, Dir90d, Dir05b, Med89, Med90]. **Rutherford**

[Lak96]. **RW** [Lee23].

S [Ben34, Dar92, Deh36, Dir64a, Sch85, Sch91b, Wil36]. **Salam** [Bel73, Ell91]. **Sallhofer** [Lak96]. **satisfied** [Nas84]. **Savant** [Ano30]. **Says** [Ano30]. **Sb** [Dir90d]. **sbornik** [Koz90]. **scalability** [RSK99]. **Scalar** [Cri76, DST92, DSP03, Fin00, KBN83, Vil95]. **Scale** [IRV+08, DNRV03]. **Scales** [WBR76]. **scattering** [BC78, BG90, Car94, Cor70, Dir25d, Dir26f, Dir42a, Gar84, HJKS91, Jun97, Tha88, WY85]. **scholarly** [Ano10]. **Scholars** [Ano34a]. **Schönen** [Smo93]. **School** [Bou01, Suc67, Zic88]. **schoolroom** [Hor11]. **Schrödinger** [Ano51, Ben34, Deh36, Dir61b, Haa34, Hen89, LW34, Lak96, SM35, Szm99, Wil36, BC78, DL82, Dir64a, DS83, GH75, Haa34, Lam87, LC98, MR10, MR87, Nak97, RA11, SM91, SFVW95, SM35, Szm98, de 89]. **Schrödinger-** [SM35]. **Schrödinger-like** [LC98]. **Schroedinger** [Ano33]. **Schucking** [SH99]. **Schwerkraft** [Jor52, Jor55]. **Schwinger** [AW95, FG87, Sch94a, Wot91]. **Sciama** [Bin00]. **Science** [Dir79c, Dir79b, Far03, F+00, GGK02, Gib19, Jon08, Pai00a, Smo93, Suc67, UM86, BR87, Dir37c, Gre05, GM80, Inf33, Inf34b, Pic08]. **Scientiae** [KPS+78, KP83, Per80]. **scientiarum** [Buc80]. **Scientific** [Bro91, Dir02, Dir03b, Dir04, Dir05b, Dre90, Har01, Hen91, Rod19, Sch91b, Sch94c, Alp73, BBC+94, DP97, Dar92, Dir68e, Dir72e, Haw11, Kra90, Meh72, Meh87b, Wig96d]. **Scientists** [Ano30, Bri95a, Str11]. **scoops** [Ano13]. **Scope** [Bus10, Tiw12]. **Sea** [Kol67, BSW98, Fin00, FG22, Wri16]. **Search** [Kol67, Sch06, WFC+99, CH16]. **Searching** [Esp12]. **secolo** [Wei77]. **Second** [Roz20, Ruf82, VIK98, Bor49, CM86, Hos87, Hos89, Bor49, Dir49c, Stu18]. **Second-Order** [VIK98, Hos87, Hos89]. **seconde** [Dir49c]. **secrets** [Bar02, HW06]. **Secular** [Noe73]. **Sediment** [Kol67]. **Seems** [GLR14]. **seen** [Roz67]. **Seiberg** [Fre95]. **Selected** [DP97, Sch58, Sch03, Réd05]. **selection** [Rec97]. **Self** [BSW88, EG84, Ish90, MHN98, Roh60, Dir42c, KY01, LR79, YL09, Zor80]. **self-adjoint** [Zor80]. **self-adjointness** [KY01, LR79]. **Self-Consistent** [Ish90, EG84, MHN98, YL09]. **Self-Consistently** [BSW88]. **Self-Energy** [Roh60]. **self-fractionating** [Dir42c]. **selfadjointness** [LRK80]. **seltsamste** [Far16]. **Semi** [EM33a, EM33b]. **Semi-Vektoren** [EM33a, EM33b]. **Semiclassical** [SM03, NP96]. **semiconductor** [MZF+12]. **semilinear** [EV97]. **Semivectors** [EM33b, EM33a]. **sense** [Dir81a]. **Sensitivity** [FK07, BBSF10]. **Separability** [IV85]. **Separable** [Rüd84]. **separates** [IV87, Jin91]. **Separation** [IK91, KM84, PT86, VP90, Vil90b, VC02, Dir41, KMW86, SV89b, SC91, SC92b, SC92a, Löw64]. **Sept** [Dys74, Ano05, Kle05]. **September** [DHS78, Meh73, Pet11]. **septième** [CCJ+34]. **Series** [KM92, Bel91, Moh07]. **Session** [Dir80c, ZDF+84]. **Set** [Ano34a, QGW01, KL92]. **Sets** [Dat95, QGW01, Sch06, Tau61a, KLMW88]. **setting** [Kru94]. **seven** [Kle05]. **seven-times** [Kle05]. **Seventh** [CCJ+34, Far01]. **seventieth** [Cha73]. **seventy** [Esp08]. **Several** [Smo87].

Shankland [Pei36]. **Shape** [Dir43a, GPS86, FA01, PFD43]. **Shaped** [Gib19]. **Share** [Ano33]. **Sharp** [CG07]. **shearfree** [KM84]. **shell** [Csa81, Dir42d, DEŠ89, DEŠ92]. **Shift** [de 91, Inf63]. **shine** [Kra17]. **Shook** [Gam85, Gam66a, Gam66b, Gam72, Haw11]. **Short** [Ano33, BC78, Deb13]. **Short-Story** [Ano33]. **Sicily** [Zic88]. **side** [Dal87a]. **Signatures** [MZF+12]. **Significance** [Dic64]. **Silent** [Dys10]. **silicon** [BBSF10]. **Similarity** [SES82, Wil98]. **simmetrica** [Maj37]. **simple** [Rum86]. **Sinc** [AT07]. **Sinc-based** [AT07]. **since** [CT83, Meh75]. **Single** [Hür22]. **singular** [All04, Ara93]. **singularities** [BK10, Dir31b]. **Sir** [Ano30]. **sistemi** [Fer24]. **Sitter** [Dir35a, Dir63b, vN40]. **situation** [Dir59f]. **six** [Ten68]. **six-dimensional** [Ten68]. **Sixty** [FR13]. **size** [Dir62e, Kha86, KPW86]. **sketch** [Dal87b]. **Skew** [GZM05]. **Skew-Symmetric** [GZM05]. **Skyrmion** [MKS+13]. **Slater** [ERW75, EG84, Kos86, Tal04]. **Small** [Bou08]. **smallest** [Fis10a, Fis12a]. **so-called** [Gol05]. **Sobranie** [Dir02, Dir03b, Dir04, Dir05b]. **Society** [GGK02, Gib19, Dor82]. **Sociology** [UM86]. **Soft** [dG97]. **Solid** [Dir43a, PFD43]. **Solitary** [KK10]. **Soliton** [Tak79, YL09]. **Solitons** [GPS86, RS84]. **Solution** [BK76, GG51, LR59, SMI83, Sri89, TCC97, AME14, Ata89, BC78, BN72, Das93, FA01, Lin10, SM91, SFVW95, SM35, Tu91, Vil90a, VP90, Vil90b, Vil95, VC02, Won90, dB52b]. **Solutions** [BSW88, DMH85, GB13, IS10b, MR51, Sta67, BM98, CGKS94, DK89, Das93, EF77, FM75, FSY00, Hau72, Hil92, HM99b, HM99a, IS10a, IV87, Jin91, KM92, KL90, KL92, KBN83, PR86, Por95, Rad96, RA11, RTV99, SBZ90, SV89a, SV93, SES82, Tak79, Wil91]. **Solvay** [CCJ+34, Far01, Meh75, CCJ+34]. **Solving** [Ano30, SG11, Tau49, TKS19]. **Some** [Ano55, Dir73g, Eli87, ES10, Jor71, KBN83, L.88, K.L88, Paĭ90, PR86, Phi87, ROB64, RS87, WBD70, Jär64, dB33, vN28]. **Sommerfeld** [Lak96, DuM28, MR82d, MR82e]. **Sort** [Ser12]. **sostoyanie** [Dir59f]. **source** [ABR06]. **Sources** [KHFA67, vdW67, vdW68, vdW07, YL09]. **sous** [CCJ+34]. **Soviet** [Fre87]. **Sovremennoe** [Dir59f]. **sozdaniyu** [Dir90b]. **Space** [Ble86, Fey48, RK96, Sch85, Tor87, vN40, BO92, BMS02b, BVV84, Das93, Dat04, Dir35a, Dir36c, Dir59a, Dir70c, Dir73e, Dir74e, Dir74g, DFW99, EF77, GLMR94, Hei72, IT88, IKRT89b, IV85, IV87, JM99, Jin91, Jor52, Jor55, KM92, KM84, KLMW88, Kis98, KL92, Lég95, LBNZ98, MB90, Nak97, Nak00, Nas86, Nil82, PT86, Pru73, Ran87, Ric03, Rüd84, Sri89, Vil90a, VP90, Zas89, Zec96, dBDW+84]. **spaces** [BILP03, FA01, KL90, OP95, Pod97]. **spacetimes** [Vul03]. **Spaltung** [EM33a]. **Spanish** [Bun52b, Dir54a, Dir67b, Dir68c, Dir69e, SHD91]. **spatially** [Das93, IS10b]. **spatially-dependent** [IS10b]. **Special** [Tau49, ZDF+84, Das96, Hor11]. **specified** [Nas97]. **Spectra** [MWF07, Sla29, SCPA04, LBNZ98, Pau25]. **Spectral** [Beh85, BK10, Leo80]. **Spectroscopic** [Ano67]. **spectroscopy** [SMI83]. **Spectrum** [Mil98, Gin09, MD88, Ogu96]. **speech** [Dir71a]. **speeches** [Ano65]. **Speed** [Lee23, IKRT89b, Kra06, Lee21, Pei35, Tak31]. **Spektren** [Pau25]. **sphere** [Dir42b, Dir42d]. **spheres** [Cla94]. **spherically** [DEŠ89, DEŠ92, PT86].

spheroid [DFPP43, PFD43]. **Spin** [Löw64, vN28, Dar90, Dir75c, FA01, IS10b, Ogu96, Pen97, Seb19, dB51, dB52a]. **spin-** [FA01, dB51, dB52a]. **spin-one** [Dar90]. **Spin-Orbit** [Löw64]. **spinning** [AW17, Riv94]. **Spinor** [EM33a, LU31, Dir62d, Eeg80, Hal87, Nas97, RL68, Wig01]. **Spinor-Gleichungen** [EM33a]. **spinorial** [NM84]. **Spinors** [Dir70c, Dir74g, RK96, Tra92, Lég95, NM84, Nas86, RR93]. **spins** [Kat00]. **Spirit** [Gib19]. **Splitting** [EM33a]. **St** [Dir37c, Dir90d, Jef87]. **Stability** [Bou08, Roh60]. **staircase** [Fis10a, Fis12a]. **Stand** [Jor59b]. **standard** [Gab13]. **Standing** [Bou08, KD33]. **Stars** [JRF06, Jor49, VKA21, Kra17]. **State** [BB03, CH16, CMO00, Dir83c, Hal78, Lan87b, Oak00, Cor70, Hei72, IS10a, Jor59b]. **Statement** [Dir33c]. **States** [GPS86, BB85, RU81, ZQ90]. **Stat'i** [Dir03b, Dir04, Dir05b]. **static** [KL92]. **statistical** [Dir25c, Dir29a, Dir41, JT10]. **Statistics** [Kap40, Bel82, Bel94, Pei72]. **statistike** [Bel82]. **status** [Uza03]. **stellar** [Dir25d, Kra17]. **Stellung** [Dir53a]. **Step** [Nov74, Wal76]. **Steven** [And88]. **still** [Kae48]. **Stockholm** [HSD34a, Wil36, WD06]. **Stoner** [Fuk14]. **Storia** [Wei77]. **Story** [Ano33, Bel73, Gam85, Jon08, Gam66a, Gam66b, Gam72]. **Stoßvorgänge** [Dir27e]. **Strange** [Ryc17, Wea16]. **Strangest** [Cas10, Dys10, Far09b, RS10, Sti13, Far16]. **streams** [Dir77b]. **stress** [Dir55e]. **string** [Che77]. **strongly** [Ara93]. **Structure** [BS67, Bek86, CCJ$^+$34, FK07, MS68, MWF07, SCPA04, WFC$^+$99, AG03, BBSF10, Car01, CKYY07, Csa81, Han99, Jär64, MG87, Pau25, PSA94, YZ08, dG80, CCJ$^+$34]. **Structures** [GZM05]. **Struggle** [Wüt11a]. **Struktur** [Jär64]. **student** [Bus10, Phi87]. **Studies** [Ble86, KPS$^+$78, KP83, Löw64, Sch85, Tor87, UM86, BVV84, dBDW$^+$84]. **Study** [Ano34b, DN96, Löw64, Pas12, AKV83, Fis10a, Fis12a, Kra81a, LR79, LRK80, RSK99]. **stuff** [Haw11]. **Sturmian** [Hos87]. **subelectron** [Dir77c]. **subgroups** [Dir72a, Lég95]. **submanifolds** [Bet83]. **Subnuclear** [Zic88]. **sulla** [Fer24]. **Summary** [Str71, Ano30]. **summation** [Bel91]. **super** [Nil82]. **superalgebra** [KR92]. **superalgebras** [HW90, Pen99]. **Superconducting** [FK08]. **superconductor** [MZF$^+$12]. **superluminal** [Sri83]. **supernova** [FA10]. **Superstring** [WW86]. **Supersymmetric** [Tiw12, DST92, Fei02, OS81]. **Supersymmetry** [DJ95, JM99]. **supervisor** [Sha87]. **support** [Car01]. **Surface** [FK08]. **surfaces** [DP03]. **surrounded** [Dir42d]. **SWU** [Ber09]. **Symbolic** [D'A02, Wat91]. **Symmetric** [BSW88, FK70, GZM05, DEŠ89, DEŠ92, PT86]. **symmetrical** [Dar90, MD88, Maj37]. **Symmetries** [GM80, Ker83, LMV91, SES81, ZDF$^+$84, BB85, Dir73c, Dir73d, KMW86, Pei92]. **Symmetry** [Dir55f, Ant69a, Ant69b, BR97, FA01, IS10b, IV85, IV87, IK91, Jin91, KM84, Lee95, Vil90b, Ant69b]. **Symplectic** [BNB94, Reu99]. **Symposium** [Meh73, Sal69, Wat91, BB03, Dys74, HE82, LW78, Sno73, Wig96b]. **synthesis** [SBZ90]. **System** [BF12, KM12, All04, HJKS91, IKRT89b, KY93, LCH10, MD88, SM03].

Systematic [SBB+62]. **Systems** [GZM05, AT07, Dir29b, Dir48c, Fer24, GB90, Oev88, PSA94, Rüd84, RTV99, Sei99, TM85, YG77].

T [Bus10, CK78, Dir02, Dir03b, Dir04, Dir05b]. **T.** [Dir52a]. **tale** [BMS02a]. **talk** [Bri95a]. **Tallahassee** [BB03, Hal78, LW78, Wig87a]. **Taub** [CV02]. **Taylor** [L.88, Stu88, Dar91]. **team** [Car01]. **techniques** [RL68]. **Teilchen** [Fis10a, Fis12a]. **temperature** [Dir24a, PD62]. **Ten** [Jon08]. **tensor** [Bet83, Dar90, DMH85, Dir55e, IS10a, Lan05b, RM96, SS98, WY84]. **tenu** [CCJ+34]. **Teoria** [Maj37, Bun52b]. **teorii** [Dir59f, Dir90b, Med89]. **Teoriya** [Dir34b, Dir02, Dir03b, Dir04]. **Term** [Sch91a, FG87, KY01, Wot91]. **Terms** [Löw64, AW95, ABR06, Cor70, Mal75c, MHN98]. **Test** [BF12, Dir79l, KM12, Rob83, Wil93b, Dir80b]. **Tests** [Rob85, Ano08, MBS02]. **tetrad** [Can98, Nas97, RM95]. **tetrads** [UB83]. **Tevatron** [Sch06]. **textbook** [Tiw12]. **textbooks** [BN13]. **Thales** [Lak96]. **théeorie** [Dir48e]. **Their** [Sch06, Cor70, Dir73b, Dir78a, Dir86, Dys72, LC98, Oak00, Som36, Uza03]. **them** [Pic08]. **Theorem** [RRS06, DP03, Kla90, Sem93, Bar81]. **theorems** [Cra85]. **theoretic** [WY84]. **Theoretical** [Dic64, KPS+78, KP83, L.88, Meh73, Ruf82, Sal69, Dir69d, Dir70b, Dir82d, Dir89, EAW15, Jor52, Jor55, Lan30, Lan05a, Meh72, Meh87b, Uza03]. **theoretischen** [Jor52, Jor55]. **Theorie** [Hei34b, Hei34a, HE35, Lan30, Neu33, vN28, Dir34c, Bor49, Bou01, Dav98, Dir39a, PS32a, PS32b, dB32a, dB33, dB34, dB51, dB52b, dB52a, Som36]. **Theorien** [Deh36, Haa34]. **Theories** [BSW88, KPW75, Mar84, McA90, WW86, BM98, GH75, Haa34, Sal87a, Sal87b, Szm98, Szm99, LT62]. **theorist** [Ehb22, Ehb23]. **Theory** [Ano30, Ano34a, BD61, Bro05, Dir27d, Dir30i, Dir30j, DH32b, Dir34d, Dir43a, Dir55d, Dir65b, Dir75g, Dir75a, Dir76c, Dir79d, Dir82f, Dir83b, Dir83c, Dir91b, Dir96, DPP97, Dir02, Dir03b, Dir04, Dra23, DuM28, Dun12, Dys07b, EKI94, FBD05, Gam85, HSD34a, HE06, HL38, Hov96, Inf34a, Inf53a, Kil76, Kim80a, Kim80b, Kra81b, Löw64, Mar65, Neu33, Plo15, Sch91a, Sch31a, Sch31b, Sla29, Tau61a, Tau61b, Tau63b, Wey31b, Wey50, Wie29, vN28, AW17, BNB94, Bor49, Bor52, Bou85, Bou01, Bun52b, BV85, Caw69, Che77, Col12, Dav98, Dir26c, Dir27c, Dir28f, Dir28d, Dir28e, Dir28b, Dir28c, Dir34a, Dir38a, Dir41, DPP42, Dir48c, Dir48d, Dir48b, Dir49a, Dir50a, Dir51c, Dir52d, Dir54c, Dir55b, Dir58d, Dir59d, Dir59f, Dir62a, Dir64d, Dir66b, Dir71a, Dir73g, Dir78d, Dir78f, Dir79f, Dir80h, Dir84c, Dir84d]. **theory** [Dir84e, Dir87d, Dir79m, DSP03, Edd46, Ehb22, Ehb23, GB90, Gam33, Gam66a, Gam66b, Gam72, Gol05, GNH78, Hei34b, Hei34a, HE35, Hes73, Hes75, Inf63, IU86, Jos72, Kam86, Kis98, Kru94, KP83, Kur87a, Lan30, Lan05a, LW78, Lip87, Lou83, Maj37, MHN98, MS87, Med89, MR82d, MR82e, Oev88, Olv86, Pai72, PS32a, PS32b, Pei34, Pei35, RM96, SW72, SS11, Som36, Tha88, Tra92, Zic84, dB32a, dB33, dB34, dB52b, dB52a, Dir34c, Dir34b, Dir39a, Dir79g, Dir80e, Har28, Sch69, Suc67, Tau63c, dB51, Bel73]. **There**

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[Dir26e] P. A. M. Dirac. Quantum mechanics and a preliminary investigation of the hydrogen atom. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 110 (755):561–579, March 1, 1926. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/94410`. Reprinted in [Dir67c]. Russian translation in [Dir03b, Vol. II, pp. 72ff].

Dirac:1926:RQM

[Dir26f] P. A. M. Dirac. Relativity quantum mechanics with an application to Compton scattering. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 111 (758):405–423, June 2, 1926. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/94709`. Russian translation in [Dir03b, Vol. II, pp. 117ff].

Dirac:1927:CEW

[Dir27a] P. A. M. Dirac. The Compton effect in wave mechanics. *Mathematical proceedings of the Cambridge Philosophical Society*, 23 (5):500–507, 1927. CODEN MPCPCO. ISSN 0305-0041, 1469-8064. Russian translation in [Dir03b, Vol. II, pp. 163ff].

Dirac:1927:PIQ

[Dir27b] P. A. M. Dirac. The physical interpretation of the quantum dynamics. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 113(765):621–641, January 1, 1927. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/94646`. Russian translation in [Dir03b, Vol. II, pp. 171ff].

Dirac:1927:QTD

[Dir27c] P. A. M. Dirac. The quantum theory of dispersion. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 114(769):710–728, May 2, 1927. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/94735`.

Dirac:1927:QTE

[Dir27d] P. A. M. Dirac. The quantum theory of the emission and absorption of radiation. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 114(767): 243–265, March 1, 1927. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/94746`. Russian translation in [Dir03b, Vol. II, pp. 285ff].

Dirac:1927:QS

[Dir27e] P. A. M. Dirac. Über die Quantenmechanik der Stoßvorgänge. (German) [On the quantum mechanics of collisions]. *Zeitschrift für Physik*, 44(??):585–595, 1927. CODEN ZEPYAA. ISSN 0044-3328. Russian translation in [Dir03b, Vol. II, pp. 191ff].

Dirac:1928:DFR

[Dir28a] P. A. M. Dirac. Discussion following reports of Bohr and Heisenberg. In ????, editor, *Electrons and photons (5th Conseil de physique de l'Institut International de Physique, Solvay, 24–29 October 1927, Bruxelles)*, pages 258–263. Gauthier-Villars et cie, Paris, France, 1928. LCCN ????

Dirac:1928:QTEa

[Dir28b] P. A. M. Dirac. The quantum theory of the electron. I. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 117(778):610–624, February 1, 1928. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/94981`.

Dirac:1928:QTEb

[Dir28c] P. A. M. Dirac. The quantum theory of the electron. II. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 118(779):351–361, March 1, 1928. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/94909`.

Dirac:1928:QEGa

[Dir28d] P. A. M. Dirac. Über der Quantentheorie des Elektrons. (German) [On the quantum theory of electrons]. *Physikalische Zeitschrift*, 29(??):561–563, ???? 1928. CODEN PHZTAO. ISSN 0369-982X.

Dirac:1928:QEGb

[Dir28e] P. A. M. Dirac. Zur quantentheorie des elektrons. (German) [On the quantum theory of electrons]. In Hans Falkenhagen, editor, *Leipziger Vorträge 1928: Quantentheorie und Chemie*, pages 85–94. Verlag von S. Hirzel, Leipzig, Germany, 1928. LCCN ???? Lecture given in June 1928; manuscript translated to German by A. Eucken.

Dirac:1928:QE

[Dir28f] P. A. M. Dirac. Zur Quantentheorie des Elektrons. (German) [Toward a quantum theory of the electron]. *Leipziger Vorträge*, ??(??):85–94, ???? 1928.

Dirac:1929:BSQ

[Dir29a] P. A. M. Dirac. The basis of statistical quantum mechanics. *Mathematical proceedings of the Cambridge Philosophical Society*, 25(1):62–66, 1929. CODEN MPCPCO. ISSN 0305-0041, 1469-8064. Russian translation in [Dir03b, Vol. II, pp. 208ff].

Dirac:1929:QMM

[Dir29b] P. A. M. Dirac. Quantum mechanics of many electron systems. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 123(792):714–733, April 6, 1929. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/95222`. Russian translation in [Dir03b, Vol. II, pp. 213ff].

Dirac:1930:AM

[Dir30a] P. A. M. Dirac. Approximate methods. Manuscript in English held at Churchill College Archives (Cambridge, England). This is the text of chapter XIA of the Russian edition of [Dir30f] (M.-L. GTTI, 1932; translated by M. P. Bronshtein, ed. D. D. Iwanenko), pp. 243-257, with the note 'Author's addition to the Russian edition' [note from [DP86, p. 179, ref. 31]]., 1930.

Dirac:1930:PQG

[Dir30b] P. A. M. Dirac. *Die Prinzipien der Quantenmechanik. (German) [The Principles of Quantum Mechanics].* Verlag von S. Hirzel, Leipzig, Germany, 1930. xi + 274 pp. LCCN ???? Translated by Werner Bloch from the English original.

Dirac:1930:NEP

[Dir30c] P. A. M. Dirac. Note on exchange phenomena in the Thomas atom. *Mathematical proceedings of the Cambridge Philosophical Society*, 26(3):376–385, 1930. CODEN MPCPCO. ISSN 0305-0041, 1469-8064. Russian translation in [Dir03b, Vol. II, pp. 268ff].

Dirac:1930:NID

[Dir30d] P. A. M. Dirac. Note on the interpretation of the density matrix in the many-electron problem. *Mathematical proceedings of the Cambridge Philosophical Society*, 27(2):240–243, ???? 1930. CODEN PCPSA4. ISSN 0008-1981. Russian translation in [Dir03b, Vol. II, pp. 279ff].

Dirac:1930:AEP

[Dir30e] P. A. M. Dirac. On the annihilation of electrons and protons. *Mathematical proceedings of the Cambridge Philosophical Society*, 26(3):361–375, 1930. CODEN MPCPCO. ISSN 0305-0041, 1469-8064.

Dirac:1930:PQM

[Dir30f] P. A. M. Dirac. *The Principles of Quantum Mechanics*. International series of monographs on physics (Oxford, England). Clarendon Press, Oxford, UK, 1930. x + 257 pp. LCCN QC174.12 .D57 1930. On page 96 of this book, Dirac introduces the notation $\hbar = h/(2\pi)$, where "$\hbar$ is a new universal constant having the dimensions of action." That symbol is actually a letter in the Serbian alphabet (Unicode character U045B, Cyrillic small letter tshe), but it is unknown to this bibliographer whether Dirac knew that. It seems more likely that he simply added a stroke across h as a convenient indication of its division by 2π.

Dirac:1930:P

[Dir30g] P. A. M. Dirac. The proton. *Nature*, 126(3181):605–606, October 18, 1930. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). URL `http://www.nature.com/nature/journal/v126/n3181/pdf/126605a0.pdf`.

Dirac:1930:QPM

[Dir30h] P. A. M. Dirac. Quelques problèmes de mécanique quantique. *Annales de l'Institut Henri Poincaré*, 1(4):357–400, 1930.

CODEN AIHPA2. ISSN 0365-320x (print), 2400-4855 (electronic). URL http://www.numdam.org/item?id=AIHP_1930__1_4_357_0. Baed on lectures given at the Institut Henri Poincaré, 13, 14, 19, and 20 December, 1929.

Dirac:1930:TEPa

[Dir30i] P. A. M. Dirac. A theory of electrons and protons. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 126(801):360–365, January 1, 1930. CODEN PRLAAZ. ISSN 0080-4630. URL http://www.jstor.org/stable/95359.

Dirac:1930:TEPb

[Dir30j] P. A. M. Dirac. Theory of electrons and protons. *Uspekhi Fizicheskikh Nauk*, ??(9):581–591, September 1930. CODEN UFNAAG. ISSN 0042-1294 (print), 1996-6652 (electronic). URL http://ufn.ru/ru/articles/1930/9/a/.

Dirac:1931:PMQ

[Dir31a] P. A. M. Dirac. *Les principes de la mécanique quantique. (French) [The principles of quantum mechanics]*, volume 21. Les Presses Universitaires de France, Paris, France, 1931. viii + 314 pp. URL http://longstreet.typepad.com/books/2011/03/first-french-edition-of-diracs-quantum-mechanics-1931.html. Recueil des conférences-rapports de documentation sur la physique. Translated by Al. Proca and J. Ullmo.

Dirac:1931:QSE

[Dir31b] P. A. M. Dirac. Quantised singularities in the electromagnetic field. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 133(821):60–72, September 1, 1931. CODEN PRLAAZ. ISSN 0080-4630. URL http://www.jstor.org/stable/95639. Russian translation in [Dir03b, Vol. II, pp. 388–??].

Dirac:1932:OKM

[Dir32a] P. A. M. Dirac. *Osnovy Kvantovoĭ Mekhaniki. (Russian) [The Elements of Quantum Mechanics]*. Gostekhizdat, Moscow and Leningrad, USSR, 1932. ???? pp. LCCN ???? See also [Dir02, Vol. I, pp. 303ff]. Contains author's supplement to the Russian edition: Priblizhennye metody (Approximate methods).

Dirac:1932:RQM

[Dir32b] P. A. M. Dirac. Relativistic quantum mechanics. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 136(829):453–464, May 2, 1932. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/95782`. Russian translation in [Dir03b, Vol. II, pp. 399ff].

Dirac:1933:HVC

[Dir33a] P. A. M. Dirac. Homogeneous variables in classical dynamics. *Mathematical proceedings of the Cambridge Philosophical Society*, 29(3):389–400, ???? 1933. CODEN PCPSA4. ISSN 0008-1981. Reprinted in [Sch58]. Russian translation in [Dir03b, Vol. II, pp. 461ff].

Dirac:1933:LQM

[Dir33b] P. A. M. Dirac. The Lagrangian in quantum mechanics. *Physikalische Zeitschrift der Sowjetunion*, 3(1):64–72, ???? 1933. CODEN PHZSAL. ISSN 0369-9811. URL `http://ebooks.worldscinet.com/ISBN/9789812567635/9789812567635_0003.html`. Reprinted in [Sch58, 312–320], [Dir05a], and [FBD05, 111–119].

Dirac:1933:SPQ

[Dir33c] P. A. M. Dirac. Statement of a problem in quantum mechanics. *Journal of the London Mathematical Society*, 8(??):274–277, October 1933. CODEN JLMSAK. ISSN 0024-6107 (print), 1469-7750 (electronic).

Dirac:1934:DID

[Dir34a] P. A. M. Dirac. Discussion of the infinite distribution of electrons in the theory of the positron. *Mathematical proceedings of the Cambridge Philosophical Society*, 30(2):150–163, ???? 1934. CODEN PCPSA4. ISSN 0008-1981.

Dirac:1934:TPR

[Dir34b] P. A. M. Dirac. Teoriya pozitrona. (Russian) [Theory of the positron]. In M. P. Bronstein et al., editors, *Atomnoe yadro: Sbornik dokladov i vsesoyoznoi yadernoi konferentsii [Leningrad, 24–30 September 1933]*, pages 129–144. Izdatelstvo, Akademii Nauk SSR, Leningrad, USSR, 1934. LCCN ????

Dirac:1934:TDP

[Dir34c] P. A. M. Dirac. Théorie du positron. (French) [Theory of the positron]. In Cockcroft et al. [CCJ+34], pages 203–230. LCCN ???? Address given at the Solvay Conference, October 22–29, 1933. Russian translation in [Dir03b, Vol. II, pp. 431ff].

Dirac:1934:TEP

[Dir34d] P. A. M. Dirac. *Theory of Electrons and Positrons*. A. Norstedt och Sönner, Stockholm, Sweden, 1934. 6 pp. LCCN ????

Dirac:1935:EWE

[Dir35a] P. A. M. Dirac. The electron wave equation in de Sitter space. *Annals of Mathematics (2)*, 36(3):657–669, 1935. CODEN ANMAAH. ISSN 0003-486X (print), 1939-8980 (electronic). URL `http://www.jstor.org/stable/1968649; http://www.jstor.org/stable/pdfplus/1968649.pdf`.

Dirac:1935:LQE

[Dir35b] P. A. M. Dirac. Lectures on quantum electrodynamics: 1934–1935. Report, Institute for Advanced Study, Princeton, NJ, USA, 1935. 71 pp. Notes by Boris Podolsky (first semester) and Nathan Rosen (second semester).

Dirac:1935:PQM

[Dir35c] P. A. M. Dirac. *The Principles of Quantum Mechanics*, volume 27 of *International series of monographs on physics (Oxford, England)*. Clarendon Press, Oxford, UK, second edition, 1935. xi + 300 pp.

Dirac:1936:DCE

[Dir36a] P. A. M. Dirac. Does conservation of energy hold in atomic processes? *Nature*, 137(3460):298–299, February 22, 1936. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). URL `http://www.nature.com/nature/journal/v137/n3460/pdf/137298a0.pdf`. See also [Pei36].

Dirac:1936:RWE

[Dir36b] P. A. M. Dirac. Relativistic wave equations. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 155(886):447–459, July 1, 1936. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/96758`.

Dirac:1936:WEC

[Dir36c] P. A. M. Dirac. Wave equations in conformal space. *Annals of Mathematics (2)*, 37(2):429–442, 1936. CODEN ANMAAH. ISSN 0003-486X (print), 1939-8980 (electronic). URL `http://www.jstor.org/stable/1968455`.

Dirac:1937:CVQ

[Dir37a] P. A. M. Dirac. Complex variables in quantum mechanics. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 160(900):48–59, May 1, 1937. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/96854`.

Dirac:1937:CC

[Dir37b] P. A. M. Dirac. The cosmological constants. *Nature*, 139 (3512):323, February 20, 1937. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). URL `http://adsabs.harvard.edu/abs/1937Natur.139..323D; http://www.nature.com/nature/journal/v139/n3512/pdf/139323a0.pdf`. See related work in [Dir38b, Tel48, Wil58, Dys67, Gam67a, Gam67d, Gam68, Alp73].

Dirac:1937:PSP

[Dir37c] P. A. M. Dirac. Physical science and philosophy: Prof. P. A. M. Dirac, F.R.S., St. John's College, Cambridge. *Nature*, 139(3528): 1001–1002, June 12, 1937. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). URL `http://www.nature.com/nature/journal/v139/n3528/pdf/1391001a0.pdf`. A reply to Dr. H. Dingle.

Dirac:1937:ROQ

[Dir37d] P. A. M. Dirac. The reversal operator in quantum mechanics. *Izv. Akad. Nauk. SSSR*, 4–5(??):569–575 (English), 576–582 (Russian), ???? 1937.

Dirac:1938:CTR

[Dir38a] P. A. M. Dirac. Classical theory of radiating electrons. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 167(929):148–169, August 5, 1938. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/97128`.

Dirac:1938:NBC

[Dir38b] P. A. M. Dirac. A new basis for cosmology. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 165(921):199–208, April 5, 1938. CODEN PRLAAZ. ISSN 0080-4630. URL `http://adsabs.harvard.edu/abs/1938RSPSA.165..199D; http://rspa.royalsocietypublishing.org/content/165/921/199; http://www.jstor.org/stable/97105`. See related work in [Dir37b, Tel48, Wil58, Dys67, Gam67a, Gam67d, Gam68, Alp73].

Dirac:1939:TED

[Dir39a] P. A. M. Dirac. La théorie de l'électron et du champ électromagnétique. (French) [Theory of the electron and the electromagnetic field]. *Annales de l'Institut Henri Poincaré*, 9 (2):13–49, 1939. CODEN AIHPA2. ISSN 0365-320x (print), 2400-4855 (electronic). URL `http://archive.numdam.org/article/AIHP_1939__9_2_13_0.pdf`.

Dirac:1939:NNQ

[Dir39b] P. A. M. Dirac. A new notation for quantum mechanics. *Mathematical proceedings of the Cambridge Philosophical Society*, 35 (3):416–418, ???? 1939. CODEN PCPSA4. ISSN 0008-1981. This paper introduces the Dirac bra and ket notation.

Dirac:1939:RBM

[Dir39c] P. A. M. Dirac. The relation between mathematics and physics. *Proceedings of the Royal Society of Edinburgh*, 59(??):122–129, ???? 1939. CODEN PRSEAE. ISSN 0370-1646. James Scott Prize Lecture, February 6, 1939.

Dirac:1940:ODM

[Dir40] P. A. M. Dirac. Obituary: Dr. M. Mathisson. *Nature*, 146(3706): 613, November 9, 1940. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). URL `http://www.nature.com/nature/journal/v146/n3706/pdf/146613b0.pdf`.

Dirac:1941:TSI

[Dir41] P. A. M. Dirac. The theory of the separation of isotopes by statistical methods. British Report, 1941.

Dirac:1942:EEE

[Dir42a] P. A. M. Dirac. Estimate of the efficiency of energy release with a non-scattering container. Report number MSD 4., 1942.

Dirac:1942:EUS

[Dir42b] P. A. M. Dirac. Expansion of U-sphere enclosed in a container. Report number MSD 2., 1942.

Dirac:1942:MSF

[Dir42c] P. A. M. Dirac. The motion in a self-fractionating centrifuge. Technical report, HMSO, London, UK, 1942. Report number BR 42, May 1942. Declassified 1946 as Report BDDA 7.

Dirac:1942:NMS

[Dir42d] P. A. M. Dirac. Neutron multiplication in a sphere of uniform density surrounded by a shell of non-uniform density. Report number MSD 3., 1942.

Dirac:1942:PIQ

[Dir42e] P. A. M. Dirac. The physical interpretation of quantum mechanics. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 180(980):1–40, March 18, 1942. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/97777`. Bakerian Lecture, June 19, 1941. Russian translation in [Dir03b, Vol. II, pp. 587ff].

Dirac:1943:ARN

[Dir43a] P. A. M. Dirac. Approximate rate of neutron multiplication for a solid of arbitrary shape and uniform density. Part 1. General theory. British Declassified Document Association, number 33. Report number MSD 5, part I., 1943. URL `http://discovery.nationalarchives.gov.uk/details/r/C1978994`.

Dirac:1943:QE

[Dir43b] Paul A. M. Dirac. Quantum electrodynamics. *Communications of the Dublin Institute for Advanced Studies. Series A, Theoretical physics*, 1943(1):1–36, 1943. ISSN 0070-7414.

Dirac:1945:AQL

[Dir45a] P. A. M. Dirac. Application of quaternions to Lorentz transformations. *Proceedings of the Royal Irish Academy, Section A: Mathematical and Physical Sciences*, 50(??):261–270, 1945.

CODEN PRIAAK. ISSN 0035-8975. URL `http://www.jstor.org/stable/20520646`. Russian translation in [Dir03b, Vol. II, pp. 553ff].

Dirac:1945:ABC

[Dir45b] P. A. M. Dirac. On the analogy between classical and quantum mechanics. *Reviews of Modern Physics*, 17(2–3):195–199, April 1945. CODEN RMPHAT. ISSN 0034-6861 (print), 1538-4527 (electronic), 1539-0756. URL `http://link.aps.org/doi/10.1103/RevModPhys.17.195`.

Dirac:1945:URL

[Dir45c] P. A. M. Dirac. Unitary representations of the Lorentz group. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 183(994):284–295, February 22, 1945. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/97721`.

Dirac:1946:DQE

[Dir46] Paul A. M. Dirac. Developments in quantum electrodynamics. *Communications of the Dublin Institute for Advanced Studies. Series A*, 1946(1):3–33, 1946. ISSN 0070-7414.

Dirac:1947:DQE

[Dir47a] P. A. M. Dirac. The difficulties in quantum electrodynamics. In ????, editor, *Report of the International Conference on Fundamental Particles and Low Temperature, July 1946*, volume 1, pages 10–14. Physical Society, London, UK, 1947. LCCN ????

Dirac:1947:PQM

[Dir47b] P. A. M. Dirac. *The Principles of Quantum Mechanics*, volume 27 of *International series of monographs on physics (Oxford, England)*. Clarendon Press, Oxford, UK, third edition, 1947. xii + 311 pp. URL `http://adsabs.harvard.edu/abs/1947pqm..book.....D`; `http://hooke.lib.cam.ac.uk/cgi-bin/bib_seek.cgi?cat=ul&bib=203807`.

Dirac:1948:MP

[Dir48a] P. A. M. Dirac. Magnetic poles. *Physics Today*, 1(7):26, November 1948. CODEN PHTOAD. ISSN 0031-9228 (print), 1945-0699 (electronic).

Dirac:1948:TPE

[Dir48b] P. A. M. Dirac. On the theory of point electrons. *Philosophical Magazine*, 39(??):31–34, 1948. CODEN PHMAA4. ISSN 0031-8086.

Dirac:1948:QTL

[Dir48c] P. A. M. Dirac. Quantum theory of localizable dynamical systems. *Physical Review (2)*, 73(8):1092–1103, May 1948. CODEN PHRVAO. ISSN 0031-899X (print), 1536-6065 (electronic). URL `http://link.aps.org/doi/10.1103/PhysRev.73.1092`.

Dirac:1948:TMP

[Dir48d] P. A. M. Dirac. The theory of magnetic poles. *Physical Review (2)*, 74(7):817–830, October 1948. CODEN PHRVAO. ISSN 0031-899X (print), 1536-6065 (electronic). URL `http://link.aps.org/doi/10.1103/PhysRev.74.817`.

Dirac:1948:QDT

[Dir48e] Paul A. M. Dirac. *Quelques déeveloppements sur la théeorie atomique: conféerence faite au Palais de la Déecouverte le 6 déecembre 1945*. Université de Paris, Paris, France, 1948. 15 pp. LCCN ????

Dirac:1949:DTF

[Dir49a] P. A. M. Dirac. The dynamical theory of fields, classical and quantum. Lecture notes, Canadian Mathematical Congress: second summer seminar held at the University of British Columbia, 1949, Vancouver, BC, Canada, 1949. 114 pp.

Dirac:1949:FRD

[Dir49b] P. A. M. Dirac. Forms of relativistic dynamics. *Reviews of Modern Physics*, 21(3):392–399, July 1949. CODEN RMPHAT. ISSN 0034-6861 (print), 1538-4527 (electronic), 1539-0756. URL `http://link.aps.org/doi/10.1103/RevModPhys.21.392`.

Dirac:1949:SQ

[Dir49c] P. A. M. Dirac. La seconde quantification. (French) [Second quantization]. *Annales de l'Institut Henri Poincaré*, 11 (1):15–47, 1949. CODEN AIHPA2. ISSN 0365-320x (print), 2400-4855 (electronic). URL `http://archive.numdam.org/article/AIHP_1949__11_1_15_0.pdf`.

Dirac:1950:FT

[Dir50a] P. A. M. Dirac. Field theory. In Sir Erneset William Titterton, editor, *Proceedings of the Harwell Nuclear Physics Conference, September 1950*, pages 114–115. Ministry of Supply, Harwell, UK, 1950. LCCN ???? URL `http://www.abaa.org/books/251337932.html`.

Dirac:1950:GHD

[Dir50b] P. A. M. Dirac. Generalized Hamiltonian dynamics. *Canadian Journal of Mathematics = Journal canadien de mathématiques*, 2(??):129–148, 1950. CODEN CJMAAB. ISSN 0008-414X (print), 1496-4279 (electronic).

Dirac:1950:NMG

[Dir50c] P. A. M. Dirac. A new meaning for gauge transformations in electrodynamics. *Il Nuovo Cimento (9)*, 7(??):925–938, 1950. CODEN NUCIAD. ISSN 0029-6341 (print), 1827-6121 (electronic).

Dirac:1951:HFF

[Dir51a] P. A. M. Dirac. The Hamiltonian form of field dynamics. *Canadian Journal of Mathematics = Journal canadien de mathématiques*, 3(??):1–23, 1951. CODEN CJMAAB. ISSN 0008-414X (print), 1496-4279 (electronic).

Dirac:1951:TA

[Dir51b] P. A. M. Dirac. Is there an æther? *Nature*, 168(4282):906–907, November 24, 1951. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). URL `http://www.nature.com/nature/journal/v168/n4282/abs/168906a0.html`.

Dirac:1951:NCT

[Dir51c] P. A. M. Dirac. A new classical theory of electrons. *Proceedings of the Royal Society of London. Series A, Mathematical and physical sciences*, 209(1098):291–296, November 7, 1951. CODEN PRLAAZ. ISSN 0080-4630. URL `http://www.jstor.org/stable/98908`.

Dirac:1951:RCQ

[Dir51d] P. A. M. Dirac. The relation of classical to quantum mechanics. In *Proceedings of the Second Canadian Mathematics Congress, Vancouver, 1949*, pages 10–31. University of Toronto Press, Toronto, ON, Canada, 1951.

Dirac:1952:TARa

[Dir52a] P. A. M. Dirac. Is there an æther?: Reply to H. Bondi and T. Gold. *Nature*, 169(4291):146, January 26, 1952. CODEN NATUAS. ISSN 0028-0836 (print), 1476-4687 (electronic). URL `http://www.nature.com/nature/journal/v169/n4291/abs/169146b0.html`.

Dirac:1952:TARb

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