

# Fundamental Physical Constants --- Complete Listing 2010

From: <http://physics.nist.gov/constants> - bearbeitet von hwmK 10.6.2011

<i>quantity</i>	<i>value</i>	<i>uncertainty</i>	<i>power</i>	<i>unit</i>
{220} lattice spacing of silicon	1,920 155 714	0,000 000 032	10 <sup>-14</sup>	m
alpha particle-electron mass ratio	7,294 299 5347	0,000 000 0056	10 <sup>3</sup>	
alpha particle mass	6,644 656 75	0,000 000 29	10 <sup>-27</sup>	kg
alpha particle mass energy equivalent	5,971 919 67	0,000 000 26	10 <sup>-10</sup>	J
alpha particle mass energy equivalent in MeV	3,727 379 239	0,000 000 082	10 <sup>3</sup>	MeV
alpha particle mass in u	4,001 506 179 125	0,000 000 000 062		u
alpha particle molar mass	4,001 506 179 125	0,000 000 000 062	10 <sup>-3</sup>	kg mol <sup>-1</sup>
alpha particle-proton mass ratio	3,972 599 689 33	0,000 000 000 36		
Angstrom star	1,000 014 95	0,000 000 90	10 <sup>-10</sup>	m
atomic mass constant	1,660 538 920	0,000 000 073	10 <sup>-27</sup>	kg
atomic mass constant energy equivalent	1,492 417 954	0,000 000 066	10 <sup>-10</sup>	J
atomic mass constant energy equivalent in MeV	9,314 940 61	0,000 000 21	10 <sup>2</sup>	MeV
atomic mass unit-electron volt relationship	9,314 940 61	0,000 000 21	10 <sup>8</sup>	eV
atomic mass unit-hartree relationship	3,423 177 6838	0,000 000 0034	10 <sup>7</sup>	E <sub>h</sub>
atomic mass unit-hertz relationship	2,252 342 7164	0,000 000 0023	10 <sup>23</sup>	Hz
atomic mass unit-inverse meter relationship	7,513 006 6027	0,000 000 0075	10 <sup>14</sup>	m <sup>-1</sup>
atomic mass unit-joule relationship	1,492 417 954	0,000 000 066	10 <sup>-10</sup>	J
atomic mass unit-kelvin relationship	1,080 954 08	0,000 000 98	10 <sup>13</sup>	K
atomic mass unit-kilogram relationship	1,660 538 920	0,000 000 073	10 <sup>-27</sup>	kg
atomic unit of 1 <sup>st</sup> hyperpolarizability	3,206 361 449	0,000 000 071	10 <sup>-53</sup>	C <sup>3</sup> m <sup>3</sup> J <sup>-2</sup>
atomic unit of 2 <sup>nd</sup> hyperpolarizability	6,235 380 54	0,000 000 28	10 <sup>-65</sup>	C <sup>4</sup> m <sup>4</sup> J <sup>-3</sup>
atomic unit of action $\hbar$	1,054 571 726	0,000 000 047	10 <sup>-34</sup>	J s
atomic unit of charge $e_0$	1,602 176 565	0,000 000 035	10 <sup>-19</sup>	C
atomic unit of charge density	1,081 202 338	0,000 000 024	10 <sup>12</sup>	C m <sup>-3</sup>
atomic unit of current	6,623 617 95	0,000 000 15	10 <sup>-3</sup>	A
atomic unit of electric dipole mom.	8,478 353 26	0,000 000 19	10 <sup>-30</sup>	C m
atomic unit of electric field	5,142 206 52	0,000 000 11	10 <sup>11</sup>	V m <sup>-1</sup>
atomic unit of electric field gradient	9,717 362 00	0,000 000 21	10 <sup>21</sup>	V m <sup>-2</sup>
atomic unit of electric polarizability	1,648 777 2754	0,000 000 0016	10 <sup>-41</sup>	C <sup>2</sup> m <sup>2</sup> J <sup>-1</sup>
atomic unit of electric potential	2,721 138 505	0,000 000 060	10 <sup>1</sup>	V
atomic unit of electric quadrupole mom.	4,486 551 331	0,000 000 099	10 <sup>-40</sup>	C m <sup>2</sup>
atomic unit of energy	4,359 744 34	0,000 000 19	10 <sup>-18</sup>	J
atomic unit of force	8,238 722 78	0,000 000 36	10 <sup>-8</sup>	N
atomic unit of length $a_0$	0,529 177 210 92	0,000 000 000 17	10 <sup>-10</sup>	m
atomic unit of mag. dipole mom.	1,854 801 936	0,000 000 041	10 <sup>-23</sup>	J T <sup>-1</sup>
atomic unit of mag. flux density	2,350 517 464	0,000 000 052	10 <sup>5</sup>	T
atomic unit of magnetizability	7,891 036 607	0,000 000 013	10 <sup>-29</sup>	J T <sup>-2</sup>
atomic unit of mass $m_{e0}$	9,109 382 91	0,000 000 40	10 <sup>-31</sup>	kg
atomic unit of mom.um	1,992 851 740	0,000 000 088	10 <sup>-24</sup>	kg m s <sup>-1</sup>
atomic unit of permittivity	1,112 650 056...	(exact)	10 <sup>-10</sup>	F m <sup>-1</sup>
atomic unit of time	2,418 884 326 502	0,000 000 000 012	10 <sup>-17</sup>	s
atomic unit of velocity	2,187 691 263 79	0,000 000 000 71	10 <sup>6</sup>	m s <sup>-1</sup>
Avogadro constant $N_A$	6,022 141 29	0,000 000 27	10 <sup>23</sup>	mol <sup>-1</sup>
Bohr magneton $\mu_B$	9,274 009 68	0,000 000 20	10 <sup>-24</sup>	J T <sup>-1</sup>
Bohr magneton in eV/T	5,788 381 8066	0,000 000 0038	10 <sup>-5</sup>	eV T <sup>-1</sup>
Bohr magneton in Hz/T	1,399 624 555	0,000 000 031	10 <sup>10</sup>	Hz T <sup>-1</sup>
Bohr magneton in inverse meters per tesla	4,668 644 98	0,000 000 10	10 <sup>1</sup>	m <sup>-1</sup> T <sup>-1</sup>
Bohr magneton in K/T	0,671 713 88	0,000 000 61		K T <sup>-1</sup>
Bohr radius $a_0$	0,529 177 210 92	0,000 000 000 17	10 <sup>-10</sup>	m
Boltzmann constant $k_B$	1,380 6488	0,000 0013	10 <sup>-23</sup>	J K <sup>-1</sup>
Boltzmann constant in eV/K	8,617 3324	0,000 0078	10 <sup>-5</sup>	eV K <sup>-1</sup>
Boltzmann constant in Hz/K	2,083 6618	0,000 0019	10 <sup>10</sup>	Hz K <sup>-1</sup>
Boltzmann constant in inverse meters per kelvin	6,950 3476	0,000 0063	10 <sup>1</sup>	m <sup>-1</sup> K <sup>-1</sup>
characteristic impedance of vacuum $Z_0$	3,767 303 134 61...	(exact)	10 <sup>2</sup>	$\Omega$
classical electron radius $r_e$	2,817 940 3267	0,000 000 0027	10 <sup>-15</sup>	m
Compton wavelength $\lambda_{ce}$	2,426 310 2389	0,000 000 0016	10 <sup>-12</sup>	m
Compton wavelength over $2\pi$ $\lambda_{ce}$	3,861 592 6800	0,000 000 0025	10 <sup>-13</sup>	m
conductance quantum $G_0$	7,748 091 7346	0,000 000 0025	10 <sup>-5</sup>	S
conventional value of Josephson constant $K_J$	4,835 979	(exact)	10 <sup>14</sup>	Hz V <sup>-1</sup>
conventional value of von Klitzing constant $R_K$	2,581 2807	(exact)	10 <sup>4</sup>	$\Omega$
Cu x unit	1,002 076 97	0,000 000 28	10 <sup>-13</sup>	m
deuteron-electron mag. mom. ratio	-4,664 345 537	0,000 000 039	10 <sup>-4</sup>	
deuteron-electron mass ratio	3,670 482 9644	0,000 000 0028	10 <sup>3</sup>	
deuteron g factor	0,857 438 2306	0,000 000 0072		
deuteron mag. mom.	0,433 073 489	0,000 000 010	10 <sup>-26</sup>	J T <sup>-1</sup>

deuteron mag. mom. to Bohr magneton ratio	0,466 975 4556	0,000 000 0039	10 <sup>-3</sup>	
deuteron mag. mom. to nuclear magneton ratio	0,857 438 2306	0,000 000 0072		
deuteron mass	3,343 583 48	0,000 000 15	10 <sup>-27</sup>	kg
deuteron mass energy equivalent	3,005 062 97	0,000 000 13	10 <sup>-10</sup>	J
deuteron mass energy equivalent in MeV	1,875 612 858	0,000 000 041	10 <sup>3</sup>	MeV
deuteron mass in u	2,013 553 212 712	0,000 000 000 077		u
deuteron molar mass	2,013 553 212 712	0,000 000 000 077	10 <sup>-3</sup>	kg mol <sup>-1</sup>
deuteron-neutron mag. mom. ratio	-0,448 206 52	0,000 000 11		
deuteron-proton mag. mom. ratio	0,307 012 2070	0,000 000 0024		
deuteron-proton mass ratio	1,999 007 500 97	0,000 000 000 18		
deuteron rms charge radius	2,1424	0,0021	10 <sup>-15</sup>	m
electric constant $\epsilon_0$	8,854 187 817...	(exact)	10 <sup>-12</sup>	F m <sup>-1</sup>
electron charge to mass quotient $e_0/m_{e0}$	-1,758 820 088	0,000 000 039	10 <sup>-11</sup>	C kg <sup>-1</sup>
electron-deuteron mag. mom. ratio	-2,143 923 498	0,000 000 018	10 <sup>-7</sup>	
electron-deuteron mass ratio	2,724 437 1100	0,000 000 0021	10 <sup>-4</sup>	
electron g factor $g_e$	-2,002 319 304 361 63	0,000 000 000 000 36		
electron gyromag. ratio $\gamma_e$	1,760 859 708	0,000 000 039	10 <sup>11</sup>	s <sup>-1</sup> T <sup>-1</sup>
electron gyromag. ratio over $2\pi$ $\gamma_e/2\pi$	2,802 495 266	0,000 000 062	10 <sup>4</sup>	MHz T <sup>-1</sup>
electron-helion mass ratio	1,819 543 0765	0,000 000 0020	10 <sup>-4</sup>	
electron mag. mom. $\mu_e$	-9,284 764 30	0,000 000 21	10 <sup>-24</sup>	J T <sup>-1</sup>
electron mag. mom. anomaly $a_e$	1,159 652 180 81	0,000 000 000 18	10 <sup>-3</sup>	
electron mag. mom. to Bohr magneton ratio $\frac{1}{2}g_e$	-1,001 159 652 180 81	0,000 000 000 000 18		
electron mag. mom. to nuclear magneton ratio	-1,838 281 9705	0,000 000 0014	10 <sup>3</sup>	
electron mass $m_{e0}$	9,109 382 91	0,000 000 40	10 <sup>-31</sup>	kg
electron mass energy equivalent $W_0 = m_{e0}c_0^2$	8,187 105 06	0,000 000 36	10 <sup>-31</sup>	J
electron mass energy equivalent in MeV $W_0$	0,510 998 928	0,000 000 011		MeV
electron mass in u $m_{e0}$	5,485 799 0957	0,000 000 0042	10 <sup>-4</sup>	u
electron molar mass	5,485 799 0957	0,000 000 0042	10 <sup>-7</sup>	kg mol <sup>-1</sup>
electron-muon mag. mom. ratio	2,067 669 896	0,000 000 052	10 <sup>2</sup>	
electron-muon mass ratio	4,836 331 66	0,000 000 12	10 <sup>-3</sup>	
electron-neutron mag. mom. ratio	9,609 2050	0,000 0023	10 <sup>2</sup>	
electron-neutron mass ratio	5,438 673 4472	0,000 000 0047	10 <sup>-4</sup>	
electron-proton mag. mom. ratio	6,582 106 848	0,000 000 054	10 <sup>2</sup>	
electron-proton mass ratio	5,446 170 2189	0,000 000 0042	10 <sup>-4</sup>	
electron-tau mass ratio	2,875 92	0,000 26	10 <sup>-4</sup>	
electron to alpha particle mass ratio	1,370 933 5561	0,000 000 0010	10 <sup>-4</sup>	
electron to shielded helion mag. mom. ratio	8,640 582 57	0,000 000 10	10 <sup>2</sup>	
electron to shielded proton mag. mom. ratio	-6,582 275 971	0,000 000 072	10 <sup>2</sup>	
electron-triton mass ratio	1,819 200 0656	0,000 000 0020	10 <sup>-4</sup>	
electron volt	1,602 176 565	0,000 000 035	10 <sup>-19</sup>	J
electron volt-atomic mass unit relationship	1,073 544 151	0,000 000 024	10 <sup>-9</sup>	u
electron volt-hartree relationship	3,674 932 379	0,000 000 081	10 <sup>-2</sup>	E <sub>h</sub>
electron volt-hertz relationship	2,417 989 348	0,000 000 053	10 <sup>14</sup>	Hz
electron volt-inverse meter relationship	8,065 544 29	0,000 000 18	10 <sup>5</sup>	m <sup>-1</sup>
electron volt-joule relationship	1,602 176 565	0,000 000 035	10 <sup>-19</sup>	J
electron volt-kelvin relationship	1,160 4519	0,000 0011	10 <sup>4</sup>	K
electron volt-kilogram relationship	1,782 661 845	0,000 000 039	10 <sup>-36</sup>	kg
elementary charge $e_0$	1,602 176 565	0,000 000 035	10 <sup>-19</sup>	C
elementary charge over h $e_0/h$	2,417 989 348	0,000 000 053	10 <sup>14</sup>	A J <sup>-1</sup>
Faraday constant $F$	9,648 533 65	0,000 000 21	10 <sup>4</sup>	C mol <sup>-1</sup>
Faraday constant for conventional electric current	9,648 533 21	0,000 000 43	10 <sup>4</sup>	C <sub>90</sub> mol <sup>-1</sup>
Fermi coupling constant	1,166 364	0,000 005	10 <sup>-5</sup>	GeV <sup>-2</sup>
fine-structure constant $\alpha$	7,297 352 5698	0,000 000 0024	10 <sup>-3</sup>	
first radiation constant	3,741 771 53	0,000 000 17	10 <sup>-16</sup>	W m <sup>2</sup>
first radiation constant for spectral radiance $c_{11}$	1,191 042 869	0,000 000 053	10 <sup>-16</sup>	W m <sup>2</sup> sr <sup>-1</sup>
hartree-atomic mass unit relationship	2,921 262 3252	0,000 000 0029	10 <sup>-8</sup>	u
hartree-electron volt relationship	2,721 138 505	0,000 000 060	10 <sup>1</sup>	eV
Hartree energy	4,359 744 34	0,000 000 19	10 <sup>-18</sup>	J
Hartree energy in eV	2,721 138 505	0,000 000 060	10 <sup>1</sup>	eV
hartree-hertz relationship	6,579 683 920 729	0,000 000 000 033	10 <sup>15</sup>	Hz
hartree-inverse meter relationship	2,194 746 313 708	0,000 000 000 011	10 <sup>7</sup>	m <sup>-1</sup>
hartree-joule relationship	4,359 744 34	0,000 000 19	10 <sup>-18</sup>	J
hartree-kelvin relationship	3,157 7504	0,000 0029	10 <sup>5</sup>	K
hartree-kilogram relationship	4,850 869 79	0,000 000 21	10 <sup>-35</sup>	kg
helion-electron mass ratio	5,495 885 2743	0,000 000 0062	10 <sup>3</sup>	
helion g factor	-4,255 250 612	0,000 000 050		
helion mag. mom.	-1,074 617 486	0,000 000 027	10 <sup>-26</sup>	J T <sup>-1</sup>
helion mag. mom. to Bohr magneton ratio	-1,158 740 958	0,000 000 014	10 <sup>-3</sup>	
helion mag. mom. to nuclear magneton ratio	-2,127 625 306	0,000 000 025		
helion mass	5,006 412 34	0,000 000 22	10 <sup>-27</sup>	kg

helion mass energy equivalent	4,499 539 02	0,000 000 20	10 <sup>-10</sup>	J
helion mass energy equivalent in MeV	2,808 391 481	0,000 000 062	10 <sup>3</sup>	MeV
helion mass in u	3,014 932 2468	0,000 000 0025		u
helion molar mass	3,014 932 2468	0,000 000 0025	10 <sup>-3</sup>	kg mol <sup>-1</sup>
helion-proton mass ratio	2,993 152 6707	0,000 000 0025		
hertz-atomic mass unit relationship	4,439 821 6698	0,000 000 0044	10 <sup>-24</sup>	u
hertz-electron volt relationship	4,135 667 516	0,000 000 091	10 <sup>-15</sup>	eV
hertz-hartree relationship	1,519 829 846 0045	0,000 000 000 0076	10 <sup>-16</sup>	E <sub>h</sub>
hertz-inverse meter relationship	3,335 640 951...	(exact)	10 <sup>-9</sup>	m <sup>-1</sup>
hertz-joule relationship	6,626 069 57	0,000 000 29	10 <sup>-34</sup>	J
hertz-kelvin relationship	4,799 2434	0,000 0044	10 <sup>-11</sup>	K
hertz-kilogram relationship	7,372 496 68	0,000 000 33	10 <sup>-51</sup>	kg
inverse fine-structure constant $1/\alpha$	1,370 359 990 74	0,000 000 000 44	10 <sup>2</sup>	
inverse meter-atomic mass unit relationship	1,331 025 0515	0,000 000 0013	10 <sup>-15</sup>	u
inverse meter-electron volt relationship	1,239 841 930	0,000 000 027	10 <sup>-6</sup>	eV
inverse meter-hartree relationship	4,556 335 252 755	0,000 000 000 023	10 <sup>-8</sup>	E <sub>h</sub>
inverse meter-hertz relationship	2,997 924 58	(exact)	10 <sup>8</sup>	Hz
inverse meter-joule relationship	1,986 445 684	0,000 000 088	10 <sup>-25</sup>	J
inverse meter-kelvin relationship	1,438 7770	0,000 0013	10 <sup>-2</sup>	K
inverse meter-kilogram relationship $\rho$	2,210 218 902	0,000 000 098	10 <sup>-42</sup>	kg
inverse of conductance quantum $1/G_0$	1,290 640 372 17	0,000 000 000 42	10 <sup>4</sup>	$\Omega$
Josephson constant $K_J$	4,835 978 70	0,000 000 11	10 <sup>14</sup>	Hz V <sup>-1</sup>
joule-atomic mass unit relationship	6,700 535 85	0,000 000 30	10 <sup>9</sup>	u
joule-electron volt relationship $1J$	6,241 509 34	0,000 000 14	10 <sup>18</sup>	eV
joule-hartree relationship	2,293 712 48	0,000 000 10	10 <sup>17</sup>	E <sub>h</sub>
joule-hertz relationship	1,509 190 311	0,000 000 067	10 <sup>33</sup>	Hz
joule-inverse meter relationship	5,034 117 01	0,000 000 22	10 <sup>24</sup>	m <sup>-1</sup>
joule-kelvin relationship	7,242 9716	0,000 0066	10 <sup>22</sup>	K
joule-kilogram relationship	1,112 650 056...	(exact)	10 <sup>-17</sup>	kg
kelvin-atomic mass unit relationship	9,251 0868	0,000 0084	10 <sup>-14</sup>	u
kelvin-electron volt relationship	8,617 3324	0,000 0078	10 <sup>-5</sup>	eV
kelvin-hartree relationship	3,166 8114	0,000 0029	10 <sup>-6</sup>	E <sub>h</sub>
kelvin-hertz relationship	2,083 6618	0,000 0019	10 <sup>10</sup>	Hz
kelvin-inverse meter relationship	6,950 3476	0,000 0063	10 <sup>1</sup>	m <sup>-1</sup>
kelvin-joule relationship	1,380 6488	0,000 0013	10 <sup>-23</sup>	J
kelvin-kilogram relationship	1,536 1790	0,000 0014	10 <sup>-40</sup>	kg
kilogram-atomic mass unit relationship	6,022 141 29	0,000 000 27	10 <sup>26</sup>	u
kilogram-electron volt relationship	5,609 588 85	0,000 000 12	10 <sup>35</sup>	eV
kilogram-hartree relationship	2,061 485 968	0,000 000 091	10 <sup>34</sup>	E <sub>h</sub>
kilogram-hertz relationship	1,356 392 608	0,000 000 060	10 <sup>50</sup>	Hz
kilogram-inverse meter relationship	4,524 438 73	0,000 000 20	10 <sup>41</sup>	m <sup>-1</sup>
kilogram-joule relationship	8,987 551 787...	(exact)	10 <sup>16</sup>	J
kilogram-kelvin relationship	6,509 6582	0,000 0059	10 <sup>39</sup>	K
lattice parameter of silicon	5,431 020 504	0,000 000 089	10 <sup>-10</sup>	m
Loschmidt constant (273.15 K, 100 kPa)	2,651 6462	0,000 0024	10 <sup>25</sup>	m <sup>-3</sup>
Loschmidt constant (273.15 K, 101.325 kPa) $N_L$	2,686 7805	0,000 0024	10 <sup>25</sup>	m <sup>-3</sup>
mag. constant $\mu_0$	1,256 637 0614...	(exact)	10 <sup>-6</sup>	N A <sup>-2</sup>
mag. flux quantum $\Phi_0$	(-)2,067 833 758	0,000 000 046	10 <sup>-15</sup>	Wb
molar gas constant $R$	8,314 4621	0,000 0075		J mol <sup>-1</sup> K <sup>-1</sup>
molar mass constant	1	(exact)	10 <sup>-3</sup>	kg mol <sup>-1</sup>
molar mass of carbon-12	1,2	(exact)	10 <sup>-2</sup>	kg mol <sup>-1</sup>
molar Planck constant	3,990 312 7184	0,000 000 0040	10 <sup>-10</sup>	J s mol <sup>-1</sup>
molar Planck constant times $c_0$	1,196 265 6580	0,000 000 0012	10 <sup>-1</sup>	J m mol <sup>-1</sup>
molar volume of ideal gas (273.15 K, 100 kPa)	2,271 0953	0,000 0021	10 <sup>-2</sup>	m <sup>3</sup> mol <sup>-1</sup>
molar volume of ideal gas (273.15 K, 101.325 kPa)	2,241 3968	0,000 0020	10 <sup>-2</sup>	m <sup>3</sup> mol <sup>-1</sup>
molar volume of silicon	1,205 883 301	0,000 000 080	10 <sup>-5</sup>	m <sup>3</sup> mol <sup>-1</sup>
Mo x unit	1,002 099 52	0,000 000 53	10 <sup>-13</sup>	m
muon Compton wavelength	1,173 444 103	0,000 000 030	10 <sup>-14</sup>	m
muon Compton wavelength over $2\pi$	1,867 594 294	0,000 000 047	10 <sup>-15</sup>	m
muon-electron mass ratio	2,067 682 843	0,000 000 052	10 <sup>2</sup>	
muon g factor	-2,002 331 8418	0,000 000 0013		
muon mag. mom.	-4,490 448 07	0,000 000 15	10 <sup>-26</sup>	J T <sup>-1</sup>
muon mag. mom. anomaly	1,165 920 91	0,000 000 63	10 <sup>-3</sup>	
muon mag. mom. to Bohr magneton ratio	-4,841 970 44	0,000 000 12	10 <sup>-3</sup>	
muon mag. mom. to nuclear magneton ratio	-8,890 596 97	0,000 000 22		
muon mass	1,883 531 475	0,000 000 096	10 <sup>-28</sup>	kg
muon mass energy equivalent	1,692 833 667	0,000 000 086	10 <sup>-11</sup>	J
muon mass energy equivalent in MeV	1,056 583 715	0,000 000 035	10 <sup>2</sup>	MeV
muon mass in u	1,134 289 267	0,000 000 029	10 <sup>-1</sup>	u
muon molar mass	1,134 289 267	0,000 000 029	10 <sup>-4</sup>	kg mol <sup>-1</sup>

muon-neutron mass ratio	1,124 545 177	0,000 000 028	10 <sup>-1</sup>	
muon-proton mag. mom. ratio	-3,183 345 107	0,000 000 084		
muon-proton mass ratio	1,126 095 272	0,000 000 028	10 <sup>-1</sup>	
muon-tau mass ratio	5,946 49	0,000 54	10 <sup>-2</sup>	
natural unit of action $\hbar$	1,054 571 726	0,000 000 047	10 <sup>-34</sup>	J s
natural unit of action in eV s	6,582 119 28	0,000 000 15	10 <sup>-16</sup>	eV s
natural unit of energy $W_0$	8,187 105 06	0,000 000 36	10 <sup>-14</sup>	J
natural unit of energy in MeV	5,109 989 28	0,000 000 11	10 <sup>-1</sup>	MeV
natural unit of length $\lambda_{ce} = r_E$	3,861 592 6800	0,000 000 0025	10 <sup>-13</sup>	m
natural unit of mass $m_{e0}$	9,109 382 91	0,000 000 40	10 <sup>-31</sup>	kg
natural unit of mom.um $p_e$	2,730 924 29	0,000 000 12	10 <sup>-22</sup>	kg m s <sup>-1</sup>
natural unit of mom.um in MeV/c	5,109 989 28	0,000 000 11	10 <sup>-1</sup>	MeV/c
natural unit of time $1/\omega_e$	1,288 088 668 33	0,000 000 000 83	10 <sup>-21</sup>	s
natural unit of velocity $c_0$	2,997 924 58	(exact)	10 <sup>8</sup>	m s <sup>-1</sup>
neutron Compton wavelength	1,319 590 9071	0,000 000 0014	10 <sup>-15</sup>	m
neutron Compton wavelength over $2\pi$	2,100 194 1572	0,000 000 0023	10 <sup>-16</sup>	m
neutron-electron mag. mom. ratio	1,040 668 82	0,000 000 25	10 <sup>-3</sup>	
neutron-electron mass ratio	1,838 683 6601	0,000 000 0016	10 <sup>3</sup>	
neutron g factor	-3,826 085 45	0,000 000 90		
neutron gyromag. ratio	1,832 471 79	0,000 000 43	10 <sup>8</sup>	s <sup>-1</sup> T <sup>-1</sup>
neutron gyromag. ratio over $2\pi$	2,916 469 43	0,000 000 69	10 <sup>1</sup>	MHz T <sup>-1</sup>
neutron mag. mom.	-9,662 3647	0,000 0023	10 <sup>-27</sup>	J T <sup>-1</sup>
neutron mag. mom. to Bohr magneton ratio	-1,041 875 63	0,000 000 25	10 <sup>-3</sup>	
neutron mag. mom. to nuclear magneton ratio	-1,913 042 72	0,000 000 45		
neutron mass $m_n$	1,674 927 351	0,000 000 074	10 <sup>-27</sup>	kg
neutron mass energy equivalent $m_n c^2$	1,505 349 630	0,000 000 066	10 <sup>-10</sup>	J
neutron mass energy equivalent in MeV	9,395 653 78	0,000 000 21	10 <sup>2</sup>	MeV
neutron mass in u	1,008 664 916 00	0,000 000 000 43		u
neutron molar mass	1,008 664 916 00	0,000 000 000 43	10 <sup>-3</sup>	kg mol <sup>-1</sup>
neutron-muon mass ratio	8,892 484 00	0,000 000 22		
neutron-proton mag. mom. ratio	6,849 7934	0,000 0016	10 <sup>-1</sup>	
neutron-proton mass difference	2,305 573 92	0,000 000 76	10 <sup>-30</sup>	
neutron-proton mass difference energy equivalent	2,072 146 50	0,000 000 68	10 <sup>-13</sup>	
neutron-proton mass difference energy eq. in MeV	1,293 332 17	0,000 000 42		
neutron-proton mass difference in u	1,388 449 19	0,000 000 45	10 <sup>-3</sup>	
neutron-proton mass ratio	1,001 378 419 17	0,000 000 000 45		
neutron-tau mass ratio	5,287 90	0,000 48	10 <sup>-1</sup>	
neutron to shielded proton mag. mom. ratio	-6,849 9694	0,000 0016	10 <sup>-1</sup>	
Newtonian constant of gravitation $G$	6,673 84	0,000 80	10 <sup>-11</sup>	m <sup>3</sup> kg <sup>-1</sup> s <sup>-2</sup>
Newtonian constant of gravitation over $\hbar c_0$	6,708 37	0,000 80	10 <sup>-39</sup>	(GeV/c <sup>2</sup> ) <sup>-2</sup>
nuclear magneton	5,050 783 53	0,000 000 11	10 <sup>-28</sup>	J T <sup>-1</sup>
nuclear magneton in eV/T	3,152 451 2611	0,000 000 0032	10 <sup>-8</sup>	eV T <sup>-1</sup>
nuclear magneton in inverse meters per tesla	2,542 623 527	0,000 000 056	10 <sup>-2</sup>	m <sup>-1</sup> T <sup>-1</sup>
nuclear magneton in K/T	3,658 2682	0,000 0033	10 <sup>-4</sup>	K T <sup>-1</sup>
nuclear magneton in MHz/T	7,622 593 57	0,000 000 17		MHz T <sup>-1</sup>
Planck constant $h$	6,626 069 57	0,000 000 29	10 <sup>-34</sup>	J s
Planck constant in eV s	4,135 667 516	0,000 000 091	10 <sup>-15</sup>	eV s
Planck constant over $2\pi$ $\hbar$	1,054 571 726	0,000 000 047	10 <sup>-34</sup>	J s
Planck constant over $2\pi$ in eV s	6,582 119 28	0,000 000 15	10 <sup>-16</sup>	eV s
Planck constant over $2\pi$ times c in MeV fm	1,973 269 718	0,000 000 044	10 <sup>2</sup>	MeV fm
Planck length $l_P$	1,616 199	0,000 097	10 <sup>-35</sup>	m
Planck mass $m_P$	2,176 51	0,000 13	10 <sup>-8</sup>	kg
Planck mass energy equivalent in GeV $W_P$	1,220 932	0,000 073	10 <sup>19</sup>	GeV
Planck temperature $T_P$	1,416 833	0,000 085	10 <sup>32</sup>	K
Planck time $t_P$	5,391 06	0,000 32	10 <sup>-44</sup>	s
proton charge to mass quotient	9,578 833 58	0,000 000 21	10 <sup>7</sup>	C kg <sup>-1</sup>
proton Compton wavelength	1,321 409 8565	0,000 000 0013	10 <sup>-15</sup>	m
proton Compton wavelength over $2\pi$	2,103 089 1051	0,000 000 0021	10 <sup>-16</sup>	m
proton-electron mass ratio	1,836 152 6721	0,000 000 0014	10 <sup>3</sup>	
proton g factor	5,585 694 712	0,000 000 046		
proton gyromag. ratio	2,675 222 005	0,000 000 063	10 <sup>8</sup>	s <sup>-1</sup> T <sup>-1</sup>
proton gyromag. ratio over $2\pi$	4,257 748 06	0,000 000 10	10 <sup>1</sup>	MHz T <sup>-1</sup>
proton mag. mom.	1,410 606 743	0,000 000 033	10 <sup>-26</sup>	J T <sup>-1</sup>
proton mag. mom. to Bohr magneton ratio	1,521 032 210	0,000 000 012	10 <sup>-3</sup>	
proton mag. mom. to nuclear magneton ratio	2,792 847 356	0,000 000 023		
proton mag. shielding correction	2,5694	0,0014	10 <sup>-5</sup>	
proton mass $m_p$	1,672 621 777	0,000 000 074	10 <sup>-27</sup>	kg
proton mass energy equivalent	1,503 277 484	0,000 000 066	10 <sup>-10</sup>	J
proton mass energy equivalent in MeV	9,382 720 46	0,000 000 21	10 <sup>2</sup>	MeV
proton mass in u	1,007 276 466 812	0,000 000 000 090		u

proton molar mass	1,007 276 466 812	0,000 000 000 090	10 <sup>-3</sup>	kg mol <sup>-1</sup>
proton-muon mass ratio	8,880 243 30	0,000 000 22		
proton-neutron mag. mom. ratio	-1,459 898 06	0,000 000 34		
proton-neutron mass ratio	9,986 234 7826	0,000 000 0045	10 <sup>-1</sup>	
proton rms charge radius	8,775	0,051	10 <sup>-16</sup>	m
proton-tau mass ratio	5,280 63	0,000 48	10 <sup>-1</sup>	
quantum of circulation $h/2m_{e0}$	3,636 947 5520	0,000 000 0024	10 <sup>-4</sup>	m <sup>2</sup> s <sup>-1</sup>
quantum of circulation times 2 $h/m_{e0}$	7,273 895 1040	0,000 000 0047	10 <sup>-4</sup>	m <sup>2</sup> s <sup>-1</sup>
Rydberg constant $R_{\infty}$	1,097 373 156 8539	0,000 000 000 0055	10 <sup>7</sup>	m <sup>-1</sup>
Rydberg constant times $c_0$ in Hz $R_{\infty}c$	3,289 841 960 364	0,000 000 000 017	10 <sup>15</sup>	Hz
Rydberg constant times $hc_0$ in eV $R_{hc}=R_y$	1,360 569 253	0,000 000 030	10 <sup>1</sup>	eV
Rydberg constant times $hc_0$ in J $R_{hc}=R_y$	2,179 872 171	0,000 000 096	10 <sup>-18</sup>	J
Sackur-Tetrode constant (1 K, 100 kPa)	-1,151 7078	0,000 0023		
Sackur-Tetrode constant (1 K, 101.325 kPa)	-1,164 8708	0,000 0023		
second radiation constant	1,438 7770	0,000 0013	10 <sup>-2</sup>	m K
shielded helion gyromag. ratio	2,037 894 659	0,000 000 051	10 <sup>8</sup>	s <sup>-1</sup> T <sup>-1</sup>
shielded helion gyromag. ratio over $2\pi$	3,243 410 084	0,000 000 081	10 <sup>1</sup>	MHz T <sup>-1</sup>
shielded helion mag. mom.	-1,074 553 044	0,000 000 027	10 <sup>-26</sup>	J T <sup>-1</sup>
shielded helion mag. mom. to Bohr magneton ratio	-1,158 671 471	0,000 000 014	10 <sup>-3</sup>	
shielded helion mag. mom. to nuclear magneton ratio	-2,127 497 718	0,000 000 025		
shielded helion to proton mag. mom. ratio	-7,617 665 58	0,000 000 11	10 <sup>-1</sup>	
shielded helion to shielded proton mag. mom. ratio	-7,617 861 313	0,000 000 033	10 <sup>-1</sup>	
shielded proton gyromag. ratio	2,675 153 268	0,000 000 066	10 <sup>8</sup>	s <sup>-1</sup> T <sup>-1</sup>
shielded proton gyromag. ratio over $2\pi$	4,257 638 66	0,000 000 10	10 <sup>1</sup>	MHz T <sup>-1</sup>
shielded proton mag. mom.	1,410 570 499	0,000 000 035	10 <sup>-26</sup>	J T <sup>-1</sup>
shielded proton mag. mom. to Bohr magneton ratio	1,520 993 128	0,000 000 017	10 <sup>-3</sup>	
shielded proton mag. mom. to nuclear magneton ratio	2,792 775 597	0,000 000 030		
speed of light in vacuum $c_0$	2,997 924 58	(exact)	10 <sup>8</sup>	m s <sup>-1</sup>
standard acceleration of gravity $g$	9,806 65	(exact)		m s <sup>-2</sup>
standard atmosphere	1,013 25	(exact)	10 <sup>5</sup>	Pa
standard-state pressure	1	(exact)	10 <sup>5</sup>	Pa
Stefan-Boltzmann constant $\sigma$	5,670 373	0,000 021	10 <sup>-8</sup>	W m <sup>-2</sup> K <sup>-4</sup>
tau Compton wavelength	6,977 87	0,000 63	10 <sup>-16</sup>	m
tau Compton wavelength over $2\pi$	1,110 56	0,000 10	10 <sup>-16</sup>	m
tau-electron mass ratio	3,477 15	0,000 31	10 <sup>3</sup>	
tau mass	3,167 47	0,000 29	10 <sup>-27</sup>	kg
tau mass energy equivalent	2,846 78	0,000 26	10 <sup>-10</sup>	J
tau mass energy equivalent in MeV	1,776 82	0,000 16	10 <sup>3</sup>	MeV
tau mass in u	1,907 49	0,000 17		u
tau molar mass	1,907 49	0,000 17	10 <sup>-3</sup>	kg mol <sup>-1</sup>
tau-muon mass ratio	1,681 67	0,000 15	10 <sup>1</sup>	
tau-neutron mass ratio	1,891 11	0,000 17		
tau-proton mass ratio	1,893 72	0,000 17		
Thomson cross section $\sigma_e$	6,652 458 734	0,000 000 013	10 <sup>-29</sup>	m <sup>2</sup>
triton-electron mag. mom. ratio	-1,620 514 423	0,000 000 021	10 <sup>-3</sup>	
triton-electron mass ratio	5,496 921 5256	0,000 000 0062	10 <sup>3</sup>	
triton g factor	5,957 924 895	0,000 000 076		
triton mag. mom.	1,504 609 447	0,000 000 038	10 <sup>-26</sup>	J T <sup>-1</sup>
triton mag. mom. to Bohr magneton ratio	1,622 393 657	0,000 000 02110 <sup>-3</sup>		
triton mag. mom. to nuclear magneton ratio	2,978 962 448	0,000 000 038		
triton mass	5,007 356 30	0,000 000 22	10 <sup>-27</sup>	kg
triton mass energy equivalent	4,500 387 41	0,000 000 20	10 <sup>-10</sup>	J
triton mass energy equivalent in MeV	2,808 921 004	0,000 000 062	10 <sup>3</sup>	MeV
triton mass in u	3,015 500 7134	0,000 000 0025		u
triton molar mass	3,015 500 7134	0,000 000 0025	10 <sup>-3</sup>	kg mol <sup>-1</sup>
triton-neutron mag. mom. ratio	-1,557 185 53	0,000 000 37		
triton-proton mag. mom. ratio	1,066 639 908	0,000 000 010		
triton-proton mass ratio	2,993 717 0308	0,000 000 0025		
unified atomic mass unit $u$	1,660 538 920	0,000 000 073	10 <sup>-27</sup>	kg
von Klitzing constant $R_K$	2,581 280 744 34	0,000 000 000 84	10 <sup>4</sup>	$\Omega$
weak mixing angle	2,223	0,021	10 <sup>-1</sup>	
Wien frequency displacement law constant	5,878 9254	0,000 0053	10 <sup>10</sup>	Hz K <sup>-1</sup>
Wien wavelength displacement law constant	2,897 7721	0,000 0026	10 <sup>-3</sup>	m K