Fundamental Physical Constants — Non-SI units

Quantity	Symbol	Value	Unit	Relative std. uncert. u_r
electron volt: (e/C) J	eV	$1.602\,176\,565(35) \times 10^{-19}$	J	2.2×10^{-8}
(unified) atomic mass unit: $\frac{1}{12}m(^{12}\mathrm{C})$	u	$1.660\,538\,921(73) \times 10^{-27}$	kg	4.4×10^{-8}
		Natural units (n.u.)		
n.u. of velocity	c, c_0	299 792 458	m s^{-1}	exact
n.u. of action: $h/2\pi$	$\hbar$	$1.054\,571\,726(47) \times 10^{-34}$	J s	4.4×10^{-8}
		$6.582\,119\,28(15) \times 10^{-16}$	eV s	2.2×10^{-8}
	$\hbar c$	197.326 9718(44)	MeV fm	2.2×10^{-8}
n.u. of mass	m_e	$9.109\,382\,91(40) \times 10^{-31}$	kg	4.4×10^{-8}
n.u. of energy	$m_e c^2$	$8.187\,105\,06(36) \times 10^{-14}$	J	4.4×10^{-8}
		0.510 998 928(11)	MeV	2.2×10^{-8}
n.u. of momentum	$m_e c$	$2.730\,924\,29(12) \times 10^{-22}$	kg m s^{-1}	4.4×10^{-8}
		0.510 998 928(11)	MeV/c	2.2×10^{-8}
n.u. of length: $\hbar/m_e c$	$\lambda\!\!\!^{-}_C$	$386.159\,268\,00(25) \times 10^{-15}$	m	6.5×10^{-10}
n.u. of time	$\hbar/m_e c^2$	$1.288\,088\,668\,33(83) \times 10^{-21}$	s	6.5×10^{-10}
		Atomic units (a.u.)		
a.u. of charge	e	$1.602\,176\,565(35) \times 10^{-19}$	C	2.2×10^{-8}
a.u. of mass	m_e	$9.109\,382\,91(40) \times 10^{-31}$	kg	4.4×10^{-8}
a.u. of action: $h/2\pi$	$\hbar$	$1.054\,571\,726(47) \times 10^{-34}$	J s	4.4×10^{-8}
a.u. of length: Bohr radius (bohr) $\alpha/4\pi R_\infty$	a_0	$0.529\,177\,210\,92(17) \times 10^{-10}$	m	3.2×10^{-10}
a.u. of energy: Hartree energy (hartree) $e^2/4\pi\epsilon_0 a_0 = 2R_\infty hc = \alpha^2 m_e c^2$	E_h	$4.359\,744\,34(19) \times 10^{-18}$	J	4.4×10^{-8}
a.u. of time	$\hbar/E_h$	$2.418\,884\,326\,502(12) \times 10^{-17}$	s	5.0×10^{-12}
a.u. of force	E_h/a_0	$8.238\,722\,78(36) \times 10^{-8}$	N	4.4×10^{-8}
a.u. of velocity: αc	$a_0 E_h/\hbar$	$2.187\,691\,263\,79(71) \times 10^{6}$	m s^{-1}	3.2×10^{-10}
a.u. of momentum	$\hbar/a_0$	$1.992\,851\,740(88) \times 10^{-24}$	kg m s^{-1}	4.4×10^{-8}
a.u. of current	$eE_h/\hbar$	$6.623\,617\,95(15) \times 10^{-3}$	A	2.2×10^{-8}
a.u. of charge density	e/a_0^3	$1.081\,202\,338(24) \times 10^{12}$	C m^{-3}	2.2×10^{-8}
a.u. of electric potential	E_h/e	27.211 385 05(60)	V	2.2×10^{-8}
a.u. of electric field	E_h/ea_0	$5.142\,206\,52(11) \times 10^{11}$	V m^{-1}	2.2×10^{-8}
a.u. of electric field gradient	E_h/ea_0^2	$9.717\,362\,00(21) \times 10^{21}$	V m^{-2}	2.2×10^{-8}
a.u. of electric dipole moment	ea_0	$8.478\,353\,26(19) \times 10^{-30}$	C m	2.2×10^{-8}
a.u. of electric quadrupole moment	ea_0^2	$4.486\,551\,331(99) \times 10^{-40}$	C m^2	2.2×10^{-8}
a.u. of electric polarizability	$e^2a_0^2/E_h$	$1.648\,777\,2754(16) \times 10^{-41}$	C^2 m^2 J^{-1}	9.7×10^{-10}
a.u. of 1st hyperpolarizability	$e^3a_0^3/E_h^2$	$3.206\,361\,449(71) \times 10^{-53}$	C^3 m^3 J^{-2}	2.2×10^{-8}
a.u. of 2nd hyperpolarizability	$e^4a_0^4/E_h^3$	$6.235\,380\,54(28) \times 10^{-65}$	C^4 m^4 J^{-3}	4.4×10^{-8}
a.u. of magnetic flux density	$\hbar/ea_0^2$	$2.350\,517\,464(52) \times 10^{5}$	T	2.2×10^{-8}
a.u. of magnetic dipole moment: $2\mu_B$	$\hbar e/m_e$	$1.854\,801\,936(41) \times 10^{-23}$	J T^{-1}	2.2×10^{-8}
a.u. of magnetizability	$e^2a_0^2/m_e$	$7.891\,036\,607(13) \times 10^{-29}$	J T^{-2}	1.6×10^{-9}
a.u. of permittivity: $10^7/c^2$	e^2/a_0E_h	$1.112\,650\,056\ldots \times 10^{-10}$	F m^{-1}	exact