Units and Constants in MedeA

Contents

1 Units

Quantity	Symbol	Units	SI units
Amount	mol	Mole	1.0 mol
Capacitance	F	Farad	1.0 F
Electric Charge	C	Coulomb	1.0 C
Electric Conductance	S	Siemens	1.0 S
Electric Current	A	Ampere	1.0 A
Electric Potential	V	Volt	1.0 V
Electric Resistance	ohm	Ohm	1.0 ohm
Energy	E rel	Rest Energy of Electron	8.187111E-14 J
	Ha	Hartree	4.359748E-18 J
	J	Joule	1.0 J
	Ry	Rydberg	2.179874E-18 J
	btu	British Thermal Unit	1.054350E+03 J
	cal	Calorie	4.184000E+00 J
	eV	Electronvolt	1.602177E-19 J
	erg	Erg	1.000000E-07 J
Energy Density	Pa	Pascal	1.0 Pa
	bar	Bar	100000.0 Pa
Force	N	Newton	1.0 N
	dyn	Dyne	1.000000E-05 N
Frequency	Hz	Hertz	1.0 Hz
Inductance	H	Henry	1.0 H
Length			
	Ang	Angstrom	1E-10 m
	bohr	Bohr	5.291773E-11 m
	ft	Foot	3.048000E-01 m
	in	Inch	2.540000E-02 m
	l rel	Length Unit Relativistic	3.861593E-13 m
	m	Meter	1.0 m
	mi	Mile	1.609344E+03 m
	rd	Rod	5.029200E+00 m
	ua	Astronomical Unit	149598000000.0 m
	yd	Yard	9.144000E-01 m
Magnetic Flux	Wb	Weber	1.0 Wb
Magnetic Flux Density	T	Tesla	1.0 T
Mass	g	Gram	0.001 kg

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	kg	Kilogram	1.0 kg
	lb	Pound	4.535924E-01 kg
	t	Ton	1000.0 kg
	u	Unified Stomic Mass Unit	1.6605402E-27 kg
Moment of Force	E rel	Rest Energy	8.187111E-14 J of electron
	Ha	Hartree	4.359748E-18 J
	J	Joule	1.0 J
	Ry	Rydberg	2.179874E-18 J
	btu	British thermal unit	1.054350E+03 J
	cal	Calorie	4.184000E+00 J
	eV	Electronvolt	1.602177E-19 J
	erg	Erg	1.000000E-07 J
Plane Angle	“	Degree	1.745329E-02 rad
	‘	Angular Minute	2.908882E-04 rad
	rad	Radian	1.0 rad
	deg	Degree	1.745329E-02 rad
Power	W	Watt	1.0 watt
Pressure	Pa	Pascal	1.0 Pa
	bar	Bar	100000.0 Pa
Solid Angle	sr	Steradian	1.0 sr
Temperature	K	Kelvin	1.0 K
	C	Deg Celsius	1.0 K
	F	Deg Fahrenheit	5.555556E-01 K
Time	d	Day	86400.0 s
	h	Hour	3600.0 s
	min	Minute	60.0 s
	s	Second	1.0 s
Volume	L	Liter	1.0 s

DOCUMENTATION

2 Constants

Constant	Description	SI units
Eh	Hartree Energy	4.359748E-18 J
G	Gravitational Constant	6.672590E-11 mˆ3/(kg*sˆ2)
Na	Avogadro Constant	6.022137E+23 1/mol
R	Molar Gas Constant	8.314510E+00 mˆ2*kg/(mol*K*sˆ2)
Ralpha	Rydberg Constant	1.097373E+07 1/m
Vm	Molar Volume of Ideal Gas	2.241410E-02 mˆ3/mol
a0	Bohr Radius	5.291773E-11 m
alpha	Fine Structure Constant	7.297353E-03 1
atm	Standard Atmosphere	101325.0 Pa
c	Speed of Light in Vacuum	299792458.0 m/s
e	Elementary Charge	1.602177E-19 C
eps0	Permittivity of Vacuum	8.854188E-12 Aˆ2*sˆ4/(mˆ3*kg)
gamma	Euler's Constant	5.772157E-01 1
gn	Standard Acceleration of Gravity	9.806650E+00 m/sˆ2
h	Planck Constant	6.6260755E-34 mˆ2*kg/s
hbar	Planck Constant / 2pi	1.054573E-34 mˆ2*kg/s
k	Boltzmann Constant	1.380658E-23 mˆ2*kg/(K*sˆ2)
lambdac	Compton Wavelength	2.426311E-12 m
me	Electron Mass	9.109390E-31 kg
mp	Proton Mass	1.672623E-27 kg
mu0	Permeability of Vacuum	1.256637E-06 m*kg/(Aˆ2*sˆ2)
re	Classical Electron Radius	2.817941E-15 m
ub	Bohr Magneton	9.274015E-24 mˆ2*A