PHYSICAL CONSTANTS

speed of light in a vacuum	c	2.997925×10^{8} m/s
permeability of vacuum	μ_0	$4\pi\times10^{-7}$ H/m = 12.56637×10^{-7} H/m
permittivity of vacuum	$\varepsilon_0 = 1/\mu_0 \cdot c^2$	8.8541878×10^{-12} F/m $\approx 10^{-9}/(36\pi)$ F/m
Planck constant	h	6.626069×10^{-34} J·sec = 4.135667×10^{-15} eV·sec
elementary charge	e, q	1.6021765×10^{-19} C
electron volt	eV = e/C	1.6021765×10^{-19} J
electron rest mass	m_e	9.10938×10^{-31} kg = 0.000548580 amu
	$m_e \cdot c^2/e$	0.510999 MeV
proton rest mass	m_p	1.672622×10^{-27} kg = 1.007276 amu
	$m_p \cdot c^2/e$	938.272 MeV
neutron rest mass	m_n	1.674927×10^{-27} kg = 1.008665 amu
	$m_n \cdot c^2/e$	939.565 MeV
deuteron rest mass	m_d	3.343583×10^{-27} kg = 2.013553 amu
	$m_d \cdot c^2/e$	1875.613 MeV
alpha particle mass	m_α	6.6446565×10^{-27} kg = 4.001506 amu
	$m_\alpha \cdot c^2/e$	3727.379 MeV
Avogadro constant	N_{Av}	6.0221415×10^{23} /g-mole
atomic mass unit (amu)	$m_u = 1/N_{Av}$	1.660539×10^{-27} kg
	$m_u \cdot c^2/e$	931.494 MeV
universal gas constant	R_u	8.314472 J/g-mole·°K
Boltzmann constant	$k = R_u/N_{Av}$	1.38065×10^{-23} J/°K = 1.38065×10^{-16} erg/°K
	k/e	8.61734×10^{-5} eV/°K
standard atmosphere	atm	1.01325×10^{5} N/m^2
acceleration of gravity	g_n	9.80665 m/s^2

CONVERSIONS

Length: 1 Angstrom (Å) = 10^{-10} m = 10^{-8} cm = 10^{-4} micron (μm)

Radioactivity (A):
- 1 Ci = 3.7×10^{10} Bq = 2.22×10^{12} dpm
- 1 Bq = 1 disint/sec = 27.03 pCi = 60 dpm

Radiation Exposure/Dose
- X: 1 R = 2.58×10^{-4} Coul/kg-air = 1 esu/cm^3-air
- D: 1 rad = 0.01 Gy = 100 ergs/g
  1 Gy = 1 J/kg = 100 rads
- H: 1 rem = 0.01 Sv
  1 Sv = 1 J/kg = 100 rem