Wholeness Chart 2-1. Conversions between Natural, Hybrid, and cgs Numeric Quantities

Natural Units		**Hybrid Units**		**cgs Units**	
$c = \hbar = 1$		$c = 2.99 \times 10^{10}$ cm/s $\hbar = 6.58 \times 10^{-22}$ MeV-s $\hbar c = 1.973 \times 10^{-11}$ MeV-cm		conversion factor $F = 1.602 \times 10^{-6}$ ergs/MeV	
Quantity, units of $(\text{MeV})^M$	***M***	**Multiply ← value by ↓ to get →**	**in MeV-cm-s**	**Multiply ← value by ↓ to get →**	**in cgs**
energy	1	1	MeV	*F*	ergs
mass, *m*	1	$1/c^2$	$\text{MeV-s}^2/\text{cm}^2$	*F*	$\text{erg-s}^2/\text{cm}^2 = \text{gs}$
length	-1	$\hbar c$	cm	1	cm
time	-1	$\hbar$	s	1	s
velocity	0	*c*	cm/s	1	cm/s
acceleration, **a**	1	$c/\hbar$	cm/s^2	1	cm/s^2
force	2	*m***a** factors = $1/c\hbar$	MeV/cm	*F*	ergs/cm = dynes
$\hbar$ (= 1)	0	$\hbar$	MeV-s	*F*	erg-s
Hamiltonian	1	1	MeV	*F*	ergs
Hamiltonian density	4	$1/(\hbar c)^3$	MeV/cm^3	*F*	ergs/cm^3
Lagrangian	1	1	MeV	*F*	ergs
Lagrangian density	4	$1/(\hbar c)^3$	MeV/cm^3	*F*	ergs/cm^3
action *S*	0	$\hbar$	MeV-s	*F*	erg-s
fine structure constant	0	1	unitless	1	unitless
cross section	-2	$(\hbar c)^2$	cm^2	1	cm^2