CONSTANTS OF NATURE

Constant	Symbol	Elementary form	Alternate form	MKS value	EM value
Fundamental					
Planck length	l_P	l_P		$1.616\ 255 \times 10^{-35}\ m$	
Planck mass	m_P	m_P		$2.176\ 434 \times 10^{-8}\ kg$	
Planck time	t_P	t_P		$5.391\ 247 \times 10^{-44}\ s$	
Planck charge	q_P	t_P		$5.391\ 247 \times 10^{-44}\ s$	$1.875\ 546 \times 10^{-18}\ C$
Composite					
Planck momentum	p_P	$\dfrac{l_P m_P}{t_P}$	$m_P c$	$6.524\ 786\ kgms^{-1}$	
Planck energy	E_P	$\dfrac{l_P^{\,2} m_P}{t_P^{\,2}}$	$m_P c^2$	$1{,}956{,}081{,}000\ kgm^2s^{-2}$	
Planck's constant	$\hbar$	$\dfrac{l_P^{\,2} m_P}{t_P}$	$l_P p_P,\ \ E_P t_P$	$1.054\ 571... \times 10^{-34}\ kgm^2s^{-1}$	
Gravitational constant	G	$\dfrac{l_P^{\,3}}{m_P t_P^{\,2}}$	$\dfrac{l_P}{m_P} c^2$	$6.674\ 30 \times 10^{-11}\ m^3kg^{-1}s^{-2}$	
Speed of Light	c	$\dfrac{l_P}{t_P}$	c	$299{,}792{,}458\ ms^{-1}$	
Elementary charge	e	$t_P \sqrt{\alpha}$		$4.605\ 448 \times 10^{-45}\ s$	$1.602\ 177 \times 10^{-19}\ C$
Electric constant	ε_0	$\dfrac{t_P^{\,4}}{4\pi l_P^{\,3} m_P}$	$\dfrac{1}{4\pi F_P c^2}$	$7.315\ 968 \times 10^{-63}\ s^4kg^{-1}m^{-3}$	$8.854\ 188 \times 10^{-12}\ Fm^{-1}$
Magnetic constant	μ_0	$4\pi\,\dfrac{l_P m_P}{t_P^{\,2}}$	$4\pi F_P$	$1.520\ 851 \times 10^{45}\ kgms^{-2}$	$1.256\ 637 \times 10^{-6}\ NA^{-2}$
Vacuum Impedance	Z_0	$4\pi\,\dfrac{l_P^{\,2} m_P}{t_P^{\,3}}$	$4\pi\,\dfrac{E_P}{t_P}$	$4.559\ 397 \times 10^{53}\ kgm^2s^{-3}$	$376.\,730\ 314\ \Omega$
Voltage potential	V_P	$\dfrac{l_P^{\,2} m_P}{t_P^{\,3}}$	$\dfrac{E_P}{t_P}$	$3.628\ 253 \times 10^{52}\ kgm^2s^{-3}$	$1.042\ 940 \times 10^{27}\ V$
Current potential	I_P	$\dfrac{t_P}{t_P}$		1	$3.478\ 873 \times 10^{25}\ A$
Inductance potential	L_P	$\dfrac{l_P^{\,2} m_P}{t_P^{\,2}}$	E_P	$1{,}956{,}081{,}000\ kgm^2s^{-2}$	$1.616\ 255 \times 10^{-42}\ H$
Mag inductance potential	B_P	$\dfrac{m_P}{t_P^{\,2}}$	$\dfrac{p_P}{l_P t_P}$	$7.488\ 021 \times 10^{78}\ kgs^{-2}$	$2.152\ 428 \times 10^{53}\ T$
Conductance potential	G_P	$\dfrac{t_P^{\,3}}{l_P^{\,2} m_P}$	$\dfrac{t_P}{E_P}$	$2.756\ 147 \times 10^{-53}\ s^3kg^{-1}m^{-2}$	$3.335\ 641 \times 10^{-2}\ S$
Impedance potential	Z_P	$\dfrac{l_P^{\,2} m_P}{t_P^{\,3}}$	$\dfrac{E_P}{t_P}$	$3.628\ 253 \times 10^{52}\ kgm^2s^{-3}$	$29.979\ 25\ \Omega$
Capacitance potential	C_P	$\dfrac{t_P^{\,4}}{l_P^{\,2} m_P}$	$\dfrac{t_P^{\,2}}{E_P}$	$1.485\ 907 \times 10^{-96}\ s^4kg^{-1}m^{-2}$	$1.798\ 326 \times 10^{-45}\ F$