

Table II-2a. Four fundamental forces and their carrier particles (modified after Ostdiek and Bord, 1991)

Type	Relative strength	Range (meters)	Carrier of force	Rest mass (MeV)	Electric charge	Spin of carrier
Strong	1	$<10^{-15}$	gluons	0	0	1
			mesons	>100	$0, \pm 1$	0
Electromagnetic	10^{-2}	infinite	photons	0	0	1
Weak	10^{-13}	$<10^{-17}$	weakons W^{\pm}	81,000	± 1	1
			weakon Z^0	93,000	0	1
Gravitational	10^{-38}	infinite	graviton	0	0	2

Notice: gluons hold quarks together in baryons and mesons, whereas mesons hold baryons together in nuclei.