

P	aP	Name	Spin	EM charge	Color	Comment
$A_\mu$	$A_\mu$	photon	1	0	1	gauge
$Z_\mu$	$Z_\mu$	Z boson	1	0	1	gauge
$G_{\mu p}$	$G_{\mu q}$	gluon	1	0	8	gauge
$W^+_\mu$	$W^-_\mu$	W boson	1	1	1	gauge
$\nu^e_a$	$\bar{\nu}^e_a$	neutrino	1/2	0	1	left
$e_a$	$\bar{e}_a$	electron	1/2	-1	1	
$\nu^\mu_a$	$\bar{\nu}^\mu_a$	mu-neutrino	1/2	0	1	left
$\mu_a$	$\bar{\mu}_a$	muon	1/2	-1	1	
$\nu^\tau_a$	$\bar{\nu}^\tau_a$	tau-neutrino	1/2	0	1	left
$\tau_a$	$\bar{\tau}_a$	tau-lepton	1/2	-1	1	
$u_{ap}$	$\bar{u}_{aq}$	u-quark	1/2	$\frac{2}{3}$	3	
$d_{ap}$	$\bar{d}_{aq}$	d-quark	1/2	$-\frac{1}{3}$	3	
$c_{ap}$	$\bar{c}_{aq}$	c-quark	1/2	$\frac{2}{3}$	3	
$s_{ap}$	$\bar{s}_{aq}$	s-quark	1/2	$-\frac{1}{3}$	3	
$t_{ap}$	$\bar{t}_{aq}$	t-quark	1/2	$\frac{2}{3}$	3	
$b_{ap}$	$\bar{b}_{aq}$	b-quark	1/2	$-\frac{1}{3}$	3	
$H$	$H$	Higgs	0	0	1	