quark fermion

u

UP

RED

q=+2/3 m=1,5 a 4 MeV/c2

quark fermion

u

UP

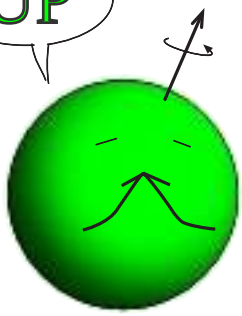
BLUE

q=+2/3 m=1,5 a 4 MeV/c2

quark fermion

u

UP



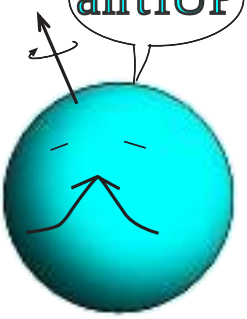
GREEN

q=+2/3 m=1,5 a 4 MeV/c2

antiquark fermion

$\bar{u}$

antiUP



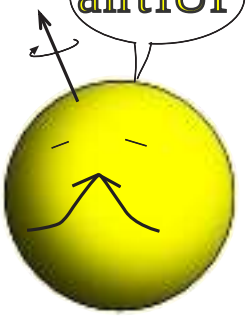
antiRED

q=-2/3 m=1,5 a 4 MeV/c2

antiquark fermion

$\bar{u}$

antiUP



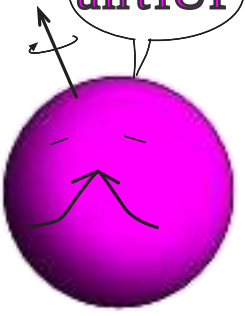
antiBLUE

q=-2/3 m=1,5 a 4 MeV/c2

antiquark fermion

$\bar{u}$

antiUP



antiGREEN

q=-2/3 m=1,5 a 4 MeV/c2

quark fermion

d

DOWN

RED

q=-1/3 m=4 a 8 MeV/c2

quark fermion

d

DOWN

BLUE

q=-1/3 m=4 a 8 MeV/c2

quark fermion

d

DOWN

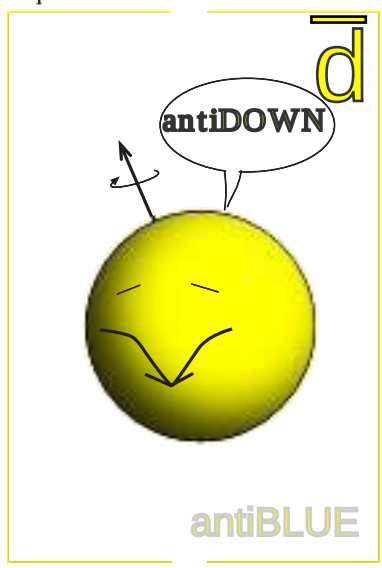
GREEN

q=-1/3 m=4 a 8 MeV/c2

antiquark fermion

q=+1/3 m=4 a 8 MeV/c2

antiquark fermion



q=+1/3 m=4 a 8 MeV/c2

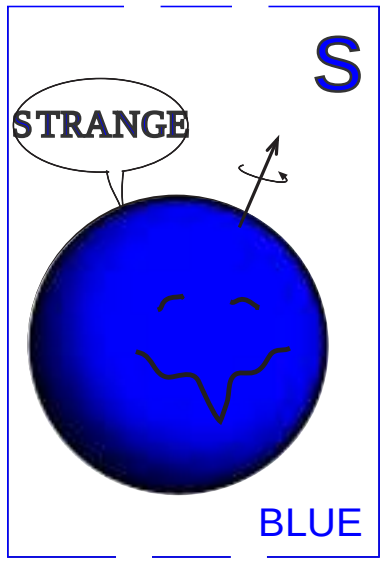
antiquark fermion

q=+1/3 m=4 a 8 MeV/c2

quark fermion

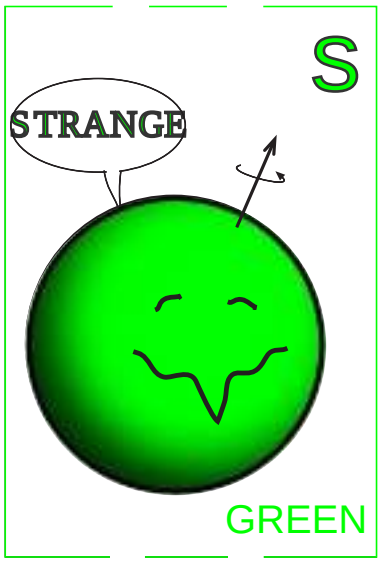
q=-1/3 m=80 a 130 MeV/c2

quark fermion



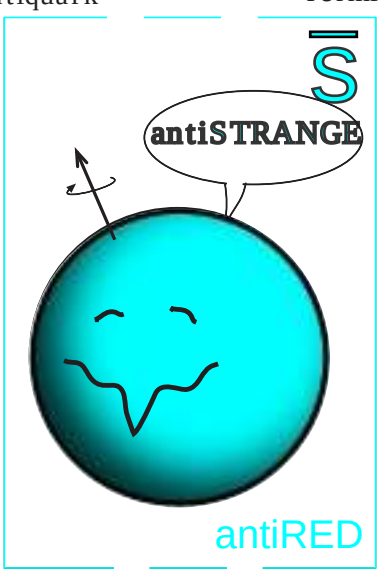
q=-1/3 m=80 a 130 MeV/c2

quark fermion



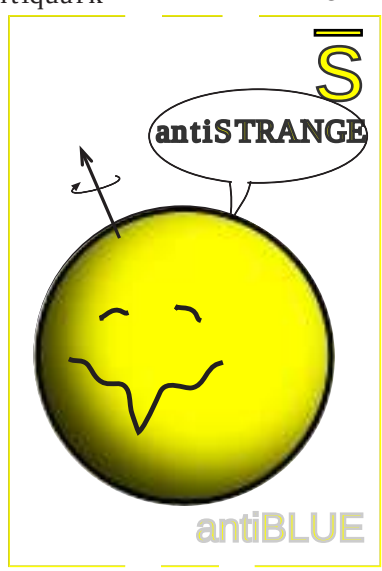
q=-1/3 m=80 a 130 MeV/c2

antiquark fermion



q=+1/3 m=80 a 130 MeV/c2

antiquark fermion



q=+1/3 m=80 a 130 MeV/c2

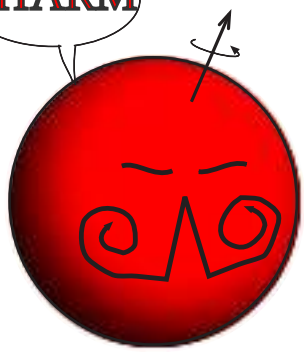
antiquark fermion

q=+1/3 m=80 a 130 MeV/c2

quark fermion

c

CHARM



RED

q=+2/3 m=1150 a 1350 MeV/c2

quark fermion

c

CHARM

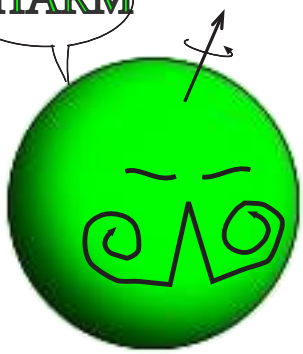
BLUE

q=+2/3 m=1150 a 1350 MeV/c2

quark fermion

c

CHARM



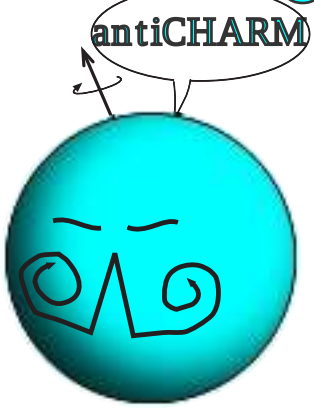
GREEN

q=+2/3 m=1150 a 1350 MeV/c2

antiquark fermion

$\bar{c}$

antiCHARM



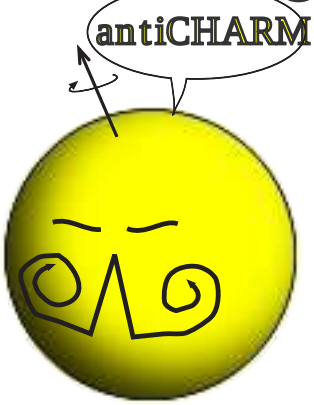
antiRED

q=-2/3 m=1150 a 1350 MeV/c2

antiquark fermion

$\bar{c}$

antiCHARM



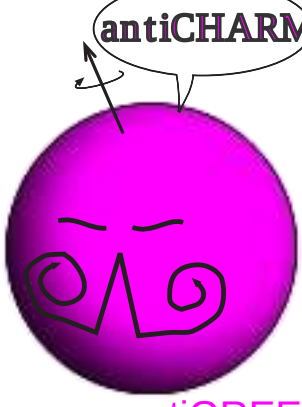
antiBLUE

q=-2/3 m=1150 a 1350 MeV/c2

antiquark fermion

$\bar{c}$

antiCHARM



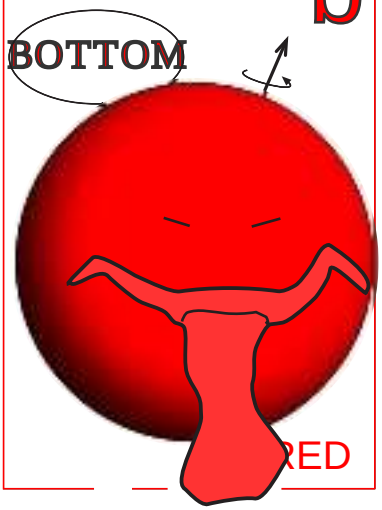
antiGREEN

q=-2/3 m=1150 a 1350 MeV/c2

quark fermion

b

BOTTOM



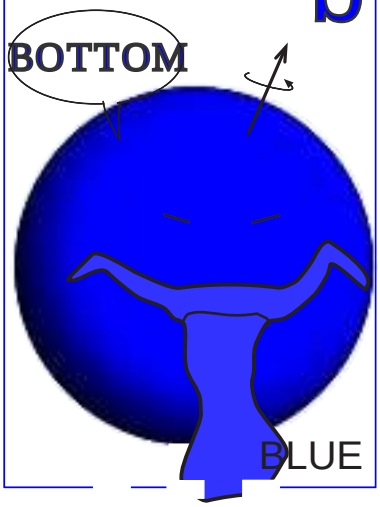
RED

q=-1/3 m=4100 a 4400 MeV/c2

quark fermion

b

BOTTOM



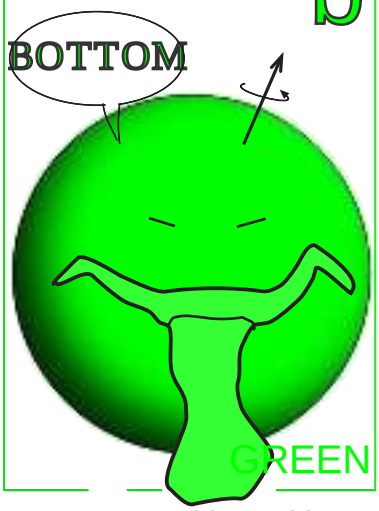
BLUE

q=-1/3 m=4100 a 4400 MeV/c2

quark fermion

b

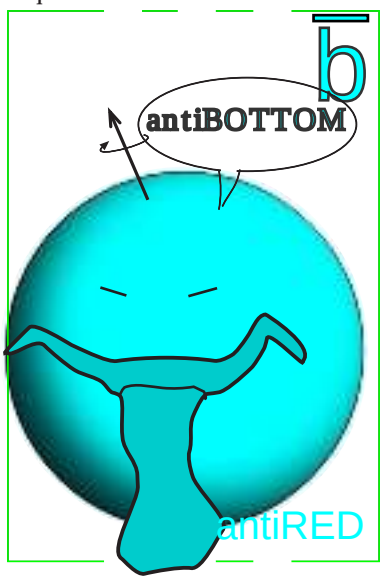
BOTTOM



GREEN

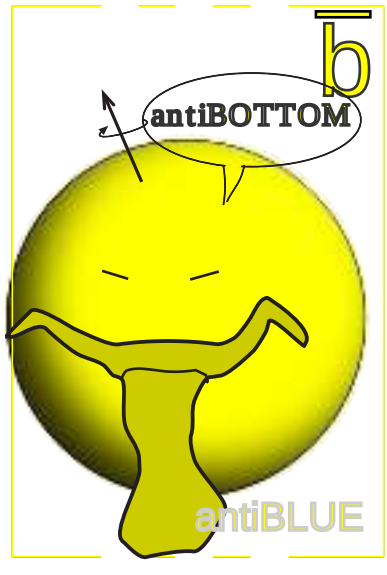
q=-1/3 m=4100 a 4400 MeV/c2

antiquark fermion



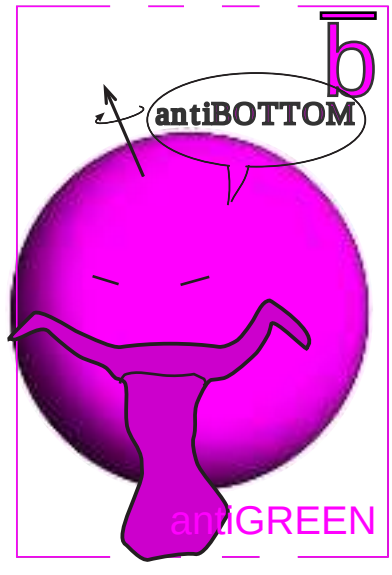
q=+1/3 m=4100 a 4400 MeV/c2

antiquark fermion



q=+1/3 m=4100 a 4400 MeV/c2

antiquark fermion

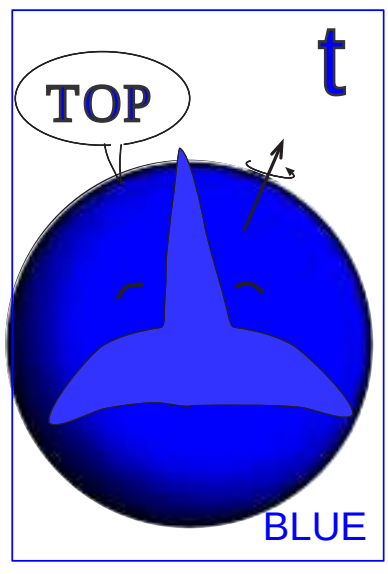


q=+1/3 m=4100 a 4400 MeV/c2

quark fermion

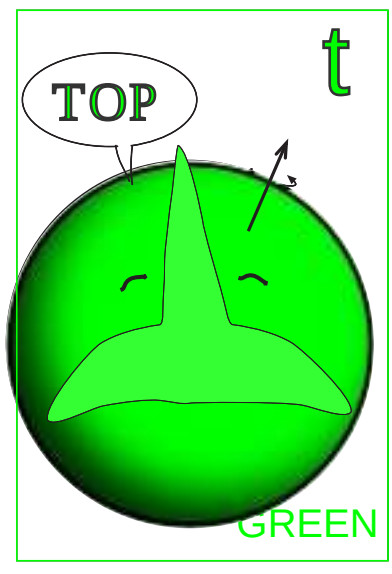
q=-1/3 m=171000 aprox MeV/c2

quark fermion



q=-1/3 m=171000 aprox MeV/c2

quark fermion

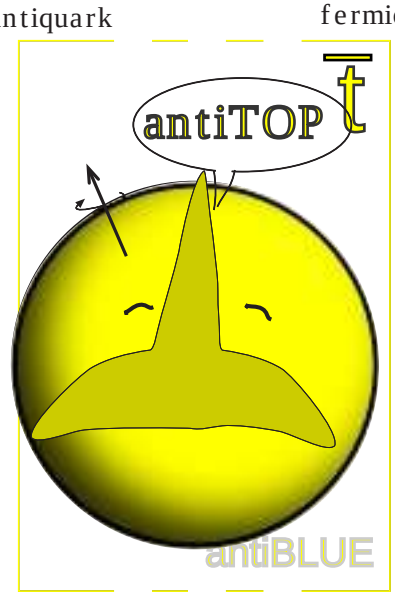


q=-1/3 m=171000 aprox MeV/c2

antiquark fermion

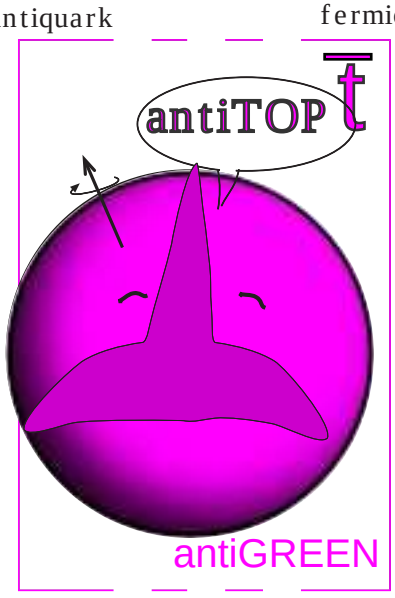
q=+1/3 m=171000 aprox MeV/c2

antiquark fermion

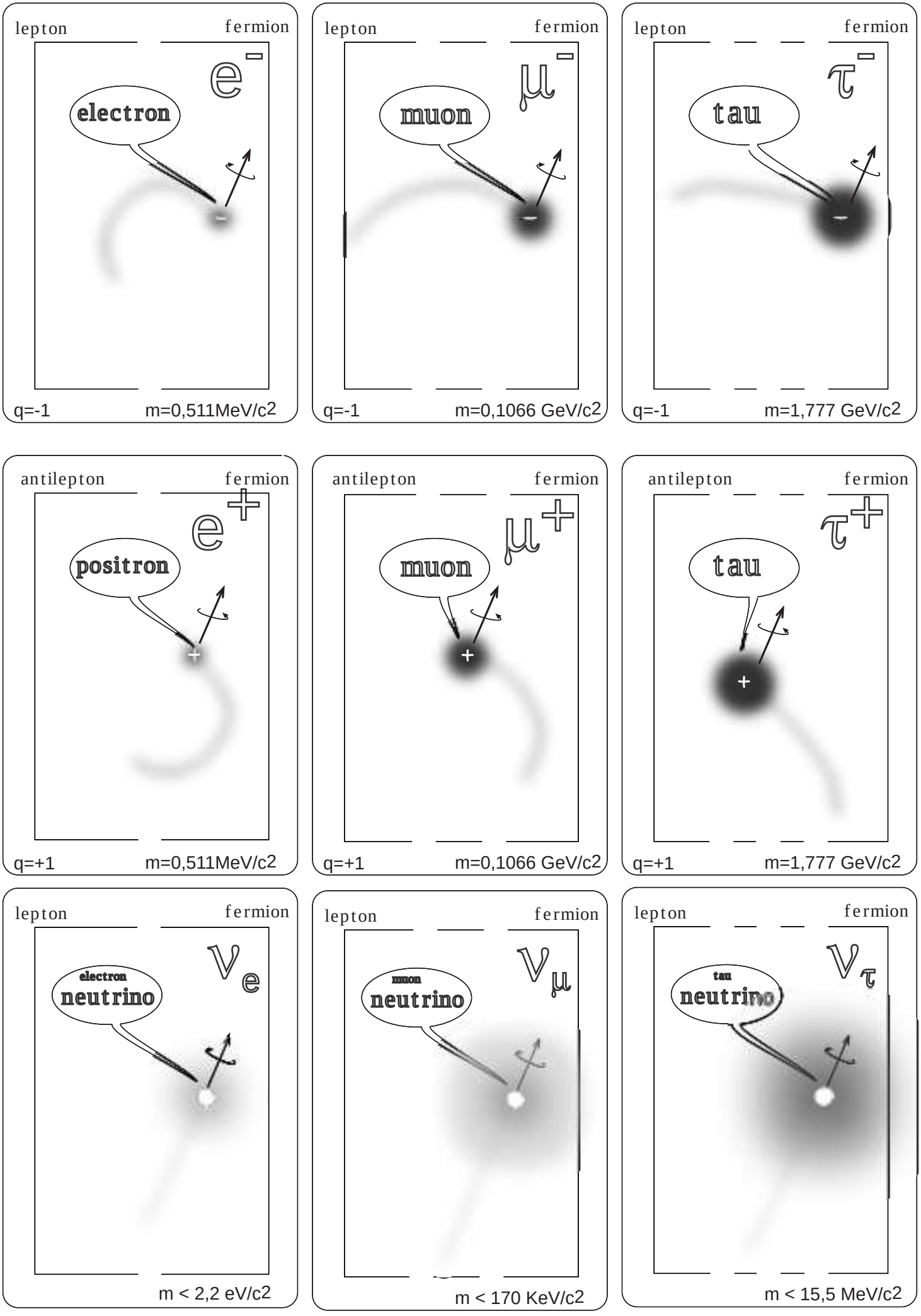


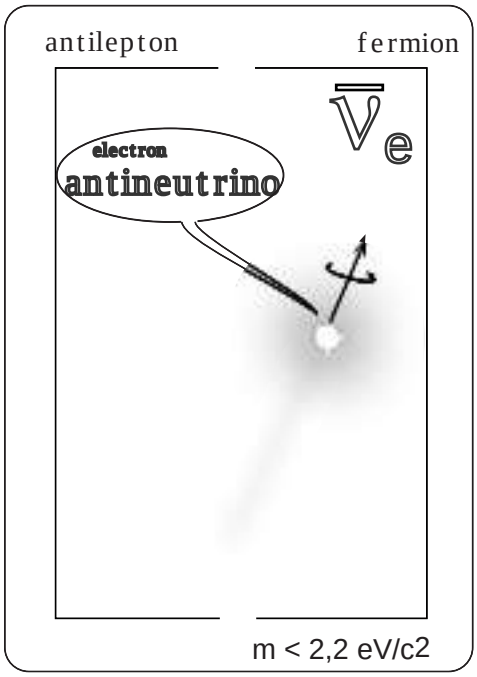
q=+1/3 m=171000 aprox MeV/c2

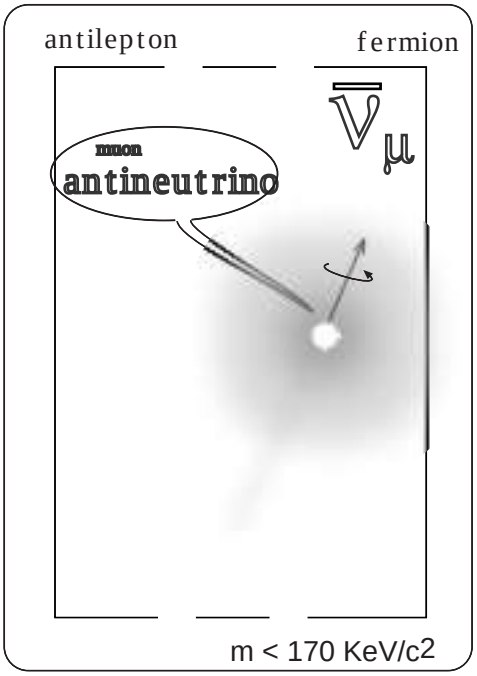
antiquark fermion



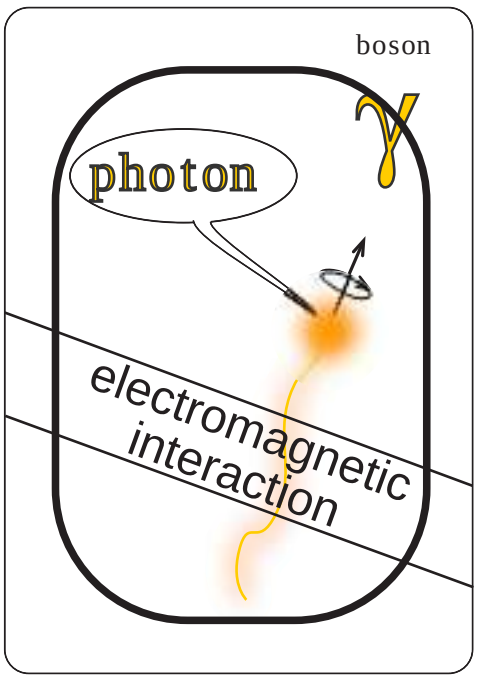
q=+1/3 m=171000 aprox MeV/c2

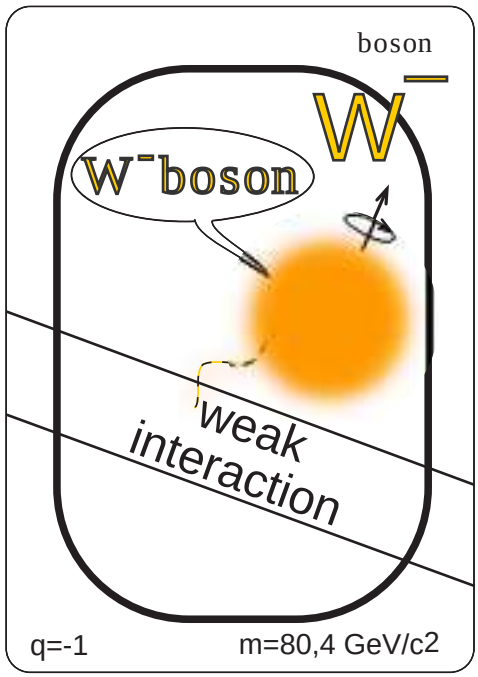

lepton
fermion
e^-
electron
q=-1
m=0,511MeV/c2
lepton
fermion
μ^-
muon
q=-1
m=0,1066 GeV/c2
lepton
fermion
τ^-
tau
q=-1
m=1,777 GeV/c2
antilepton
fermion
e^+
positron
q=+1
m=0,511MeV/c2
antilepton
fermion
μ^+
muon
q=+1
m=0,1066 GeV/c2
antilepton
fermion
τ^+
tau
q=+1
m=1,777 GeV/c2
lepton
fermion
ν_e
electron neutrino
m < 2,2 eV/c2
lepton
fermion
ν_μ
muon neutrino
m < 170 KeV/c2
lepton
fermion
ν_τ
tau neutrino
m < 15,5 MeV/c2

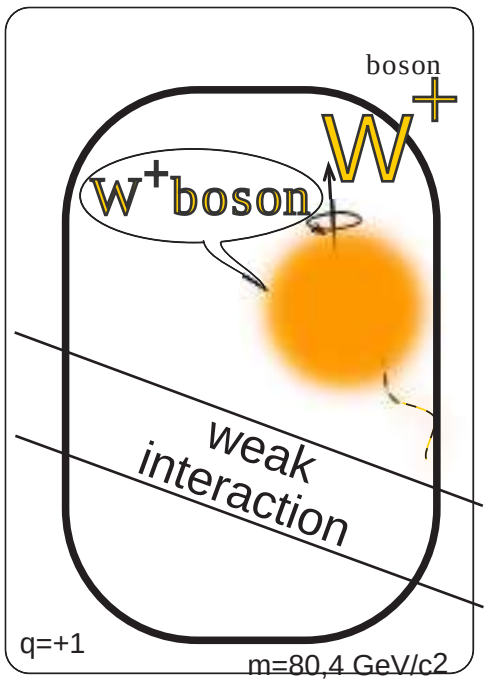

antilepton
fermion
electron
antineutrino
$\bar{\nu}_e$
m < 2,2 eV/c2

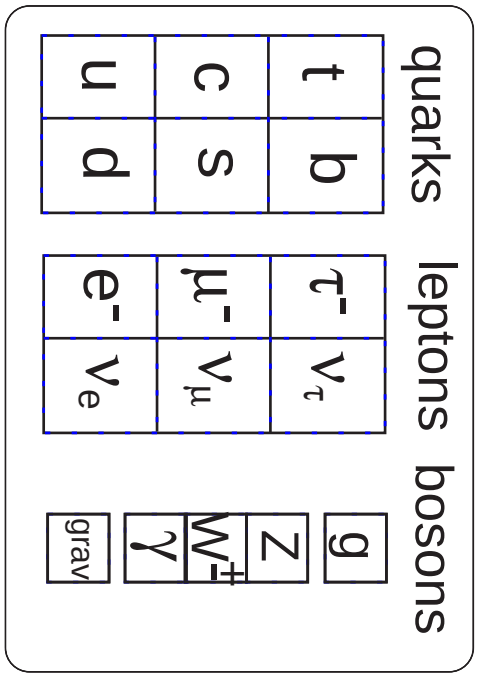

antilepton
fermion
muon
antineutrino
$\bar{\nu}_\mu$
m < 170 KeV/c2

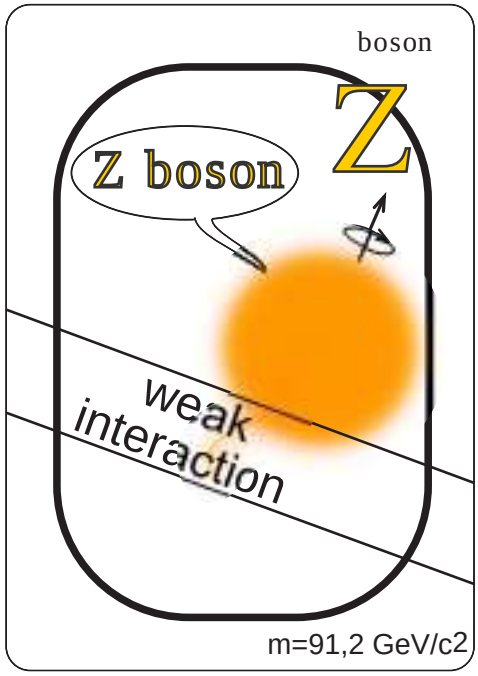

antilepton
fermion
tau
antineutrino
$\bar{\nu}_\tau$
m < 15,5 MeV/c2


boson
photon
γ
electromagnetic interaction

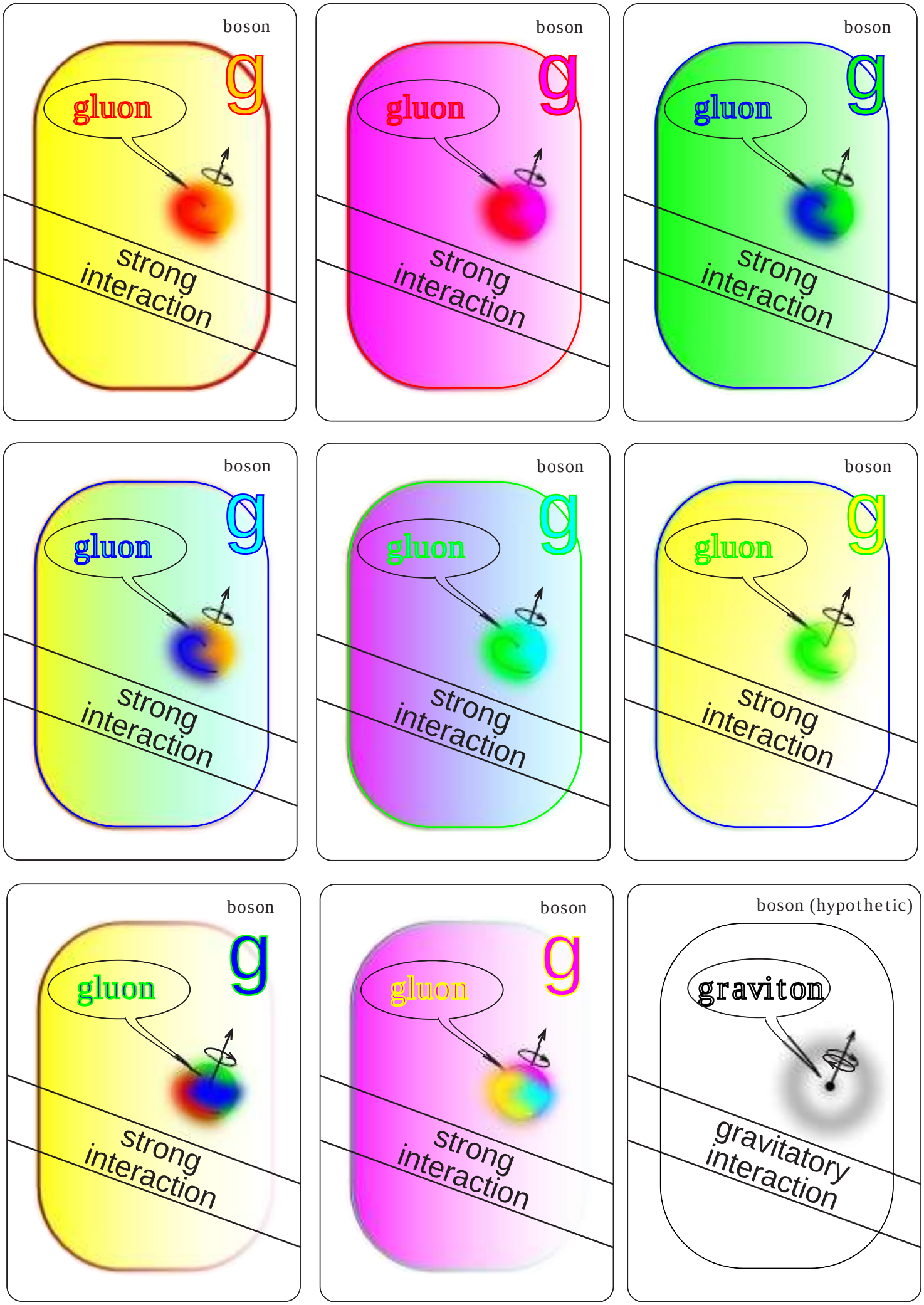

boson
W^- boson
W^-
weak interaction
q=-1
m=80,4 GeV/c2


boson
W^+ boson
W^+
weak interaction
q=+1
m=80,4 GeV/c2


quarks
u
c
t
d
s
b
leptons
e-
μ-
τ-
ν_e
ν_μ
ν_τ
bosons
grav
γ
$W^\pm$
Z
g


boson
Z boson
Z
weak interaction
m=91,2 GeV/c2


el joc de les partícules
Barcelona 2007


boson
g
gluon
strong interaction
boson
g
gluon
strong interaction
boson
g
gluon
strong interaction
boson
g
gluon
strong interaction
boson
g
gluon
strong interaction
boson
g
gluon
strong interaction
boson
g
gluon
strong interaction
boson
g
gluon
strong interaction
boson (hypothetic)
graviton
gravitatory interaction