

FERMION

QUARK

up quark



u

 ICECUBE SOUTH POLE NEUTRINO OBSERVATORY

FERMION

QUARK

down quark



d

 ICECUBE SOUTH POLE NEUTRINO OBSERVATORY

FERMION

QUARK

charm quark



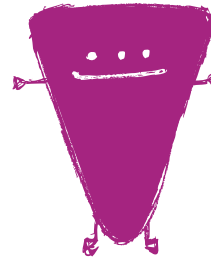
c

 ICECUBE SOUTH POLE NEUTRINO OBSERVATORY

FERMION

QUARK

strange quark



s

 ICECUBE SOUTH POLE NEUTRINO OBSERVATORY

FERMION

QUARK

top quark



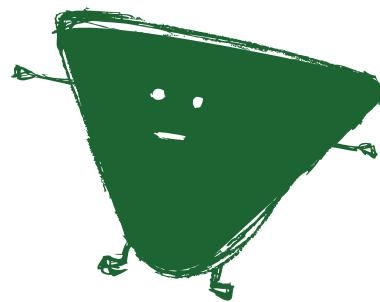
t

 ICECUBE SOUTH POLE NEUTRINO OBSERVATORY

FERMION

QUARK

bottom quark



b

 ICECUBE SOUTH POLE NEUTRINO OBSERVATORY

SPIN = 1/2

Properties

mass= 4.8 MeV
charge= -1/3
flavor = yes
color = yes

interaction?

SPIN = 1/2

Properties

mass= 2.3 MeV
charge= +2/3
flavor = yes
color = yes

interaction?

SPIN = 1/2

Properties

mass= 95 MeV
charge= -1/3
flavor = yes
color = yes

interaction?

SPIN = 1/2

Properties

mass= 1.29 GeV
charge= +2/3
flavor = yes
color = yes

interaction?

SPIN = 1/2

Properties

mass= 4.18 GeV
charge= -1/3
flavor = yes
color = yes

interaction?

SPIN = 1/2

Properties

mass= 173.34 GeV
charge= +2/3
flavor = yes
color = yes

interaction?

dark matter



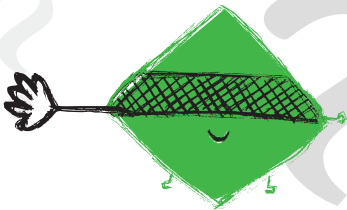
?

IceCube South Pole Neutrino Observatory

FERMION

DARK MATTER CANDIDATE

sterile neutrino



ν_s

IceCube South Pole Neutrino Observatory

FERMION

DARK MATTER CANDIDATE

neutralino



χ^0

IceCube South Pole Neutrino Observatory

SPIN =

Properties

mass= ?
charge= 0
flavor =yes
color =no

interaction?

SPIN =

Properties

?

interaction?

SPIN = 1/2

Properties

mass= ?
charge= 0
flavor = no
color = no

interaction?