

Kaon (K^+) (20 Points)

Strange Quark

Electric Charge: $-1/3$
Spin: $1/2$
Mass: 95 MeV
Half Life: 0.1 nanoseconds

Colour Charge: Yes
Baryon Number: $1/3$
2nd generation (2 points)



Kaon (K^-) (18 Points)

Down Quark

Electric Charge: $-1/3$
Spin: $1/2$
Mass: 4.8 MeV
Half Life: Stable

Colour Charge: Yes
Baryon Number: $1/3$
1st generation (1 point)



Anti-Down Quark

Electric Charge: $+1/3$
Spin: $1/2$
Mass: 4.8 MeV
Half Life: Stable

Colour Charge: Yes
Baryon Number: $-1/3$
1st generation (1 point)



Anti-Strange Quark

Electric Charge: $+1/3$
Spin: $1/2$
Mass: 95 MeV
Half Life: 0.1 nanoseconds

Colour Charge: Yes
Baryon Number: $-1/3$
2nd generation (2 points)



Electric Charge: +1
Spin: 0
Mass: 493 MeV
Half Life: 1.24×10^{-8} sec

Charged Kaons were discovered in cosmic rays in 1947. Their discovery was essential to the development of the standard model of physics: in particular the quark model and the theory of quark mixing.

Kaons also played a key role in understanding of CP violation.

Electric Charge: -1
Spin: 0
Mass: 493 MeV
Half Life: 1.24×10^{-8} sec

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