

Particle tables

Grufoony

https://github.com/Grufoony/Fisica_UNIBO

January 9, 2022

List of Tables

1	Table of quarks.	1
2	Table of leptons.	1
3	Table of bosons.	2
4	Table of mesons.	2
5	Table of baryons.	3

Name	Composition	Mass (MeV)	Q	S	B
UP	u	2.2	$\frac{2}{3}$	$\frac{1}{2}$	$\frac{1}{3}$
DOWN	d	4.7	$-\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{3}$
CHARM	c	1.2k	$\frac{2}{3}$	$\frac{1}{2}$	$\frac{1}{3}$
STRANGE	s	96	$-\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{3}$
TOP	t	173k	$\frac{2}{3}$	$\frac{1}{2}$	$\frac{1}{3}$
BOTTOM	b	4k	$-\frac{1}{3}$	$\frac{1}{2}$	$\frac{1}{3}$

Table 1: Table of quarks.

Name	Composition	Mass (MeV)	Q	S
ELECTRON	e	0.5	-1	$\frac{1}{2}$
E-NEUTRINO	ν_e	~ 0	0	$\frac{1}{2}$
MUON	μ	105	-1	$\frac{1}{2}$
M-NEUTRINO	ν_μ	~ 0	0	$\frac{1}{2}$
TAU	τ	1.7k	-1	$\frac{1}{2}$
T-NEUTRINO	ν_τ	~ 0	0	$\frac{1}{2}$

Table 2: Table of leptons.

Name	Composition	Mass (MeV)	Q	S
GLUON	g	0	0	1
PHOTON	γ	0	0	1
Z-BOSON	Z^0	$91k$	0	1
W-BOSON	W^\pm	$80k$	± 1	1
HIGGS	H	$125k$	0	0

Table 3: Table of bosons.

Name	Composition	Mass (MeV)	Q	I_3	J^{PC}
π^+	$u\bar{d}$	140	+1	+1	0^-
π^-	$d\bar{u}$	140	-1	-1	0^-
π^0	$\frac{u\bar{u}-d\bar{d}}{\sqrt{2}}$	135	0	0	0^{-+}
ρ^+	$u\bar{d}$	775	+1	+1	1^-
ρ^-	$d\bar{u}$	775	-1	-1	1^-
ρ^0	$\frac{u\bar{u}-d\bar{d}}{\sqrt{2}}$	775	0	0	1^{--}
η_c	$c\bar{c}$	$3k$	0	0	0^{+-}
η_b	$b\bar{b}$	$9k$	0	0	0^{+-}
K^+	$u\bar{s}$	490	+1	$\frac{1}{2}$	0^-
K^-	$s\bar{u}$	490	-1	$-\frac{1}{2}$	0^-
K^0	$\frac{d\bar{s}-s\bar{d}}{\sqrt{2}}$	500	0	$\frac{1}{2}$	0^-
D^+	$c\bar{d}$	$1.8k$	+1	$\frac{1}{2}$	0^-
D^-	$d\bar{c}$	$1.8k$	-1	$-\frac{1}{2}$	0^-
D^0	$c\bar{u}$	$1.8k$	0	$-\frac{1}{2}$	0^-
\bar{D}^0	$u\bar{c}$	$1.8k$	0	$\frac{1}{2}$	0^-
B^+	$u\bar{b}$	$5k$	+1	$\frac{1}{2}$	0^-
B^0	$d\bar{b}$	$5k$	0	$\frac{1}{2}$	0^-

Table 4: Table of mesons.

Name	Composition	Mass (MeV)	Q	I_3	J^{PC}
p	uud	938	+1	$\frac{1}{2}$	$\frac{1}{2}^+$
n	udd	940	0	$-\frac{1}{2}$	$\frac{1}{2}^+$
Σ^+	uus	1190	+1	1	$\frac{1}{2}^+$
Σ^-	dds	1190	-1	1	$\frac{1}{2}^+$
Σ^0	uds	1190	0	1	$\frac{1}{2}^+$
Λ^0	uds	1115	0	0	$\frac{1}{2}^+$
Ξ^0	uss	1315	0	$\frac{1}{2}$	$\frac{1}{2}^+$
Ξ^-	dss	1315	-1	$\frac{1}{2}$	$\frac{1}{2}^+$
Δ^{++}	uuu	1232	+2	$\frac{3}{2}$	$\frac{3}{2}^+$
Δ^+	uud	1232	+1	$\frac{1}{2}$	$\frac{3}{2}^+$
Δ^0	udd	1232	0	$-\frac{1}{2}$	$\frac{3}{2}^+$
Δ^-	ddd	1232	-1	$-\frac{3}{2}$	$\frac{3}{2}^+$
Σ^{*+}	uus	1385	+1	1	$\frac{3}{2}^+$
Σ^{*-}	dds	1385	-1	1	$\frac{3}{2}^+$
Σ^{*0}	uds	1385	0	1	$\frac{3}{2}^+$
Ξ^{*0}	uss	1530	0	$\frac{1}{2}$	$\frac{3}{2}^+$
Ξ^{*-}	dss	1530	-1	$\frac{1}{2}$	$\frac{3}{2}^+$
Ω^-	sss	$1.6k$	-1	0	$\frac{3}{2}^+$

Table 5: Table of baryons.