

# Standard Model Higgs Boson

## North-Holland - Supersymmetric Higgs Production in Vector

Three Generations of Matter (Fermions)					
I	II	III			
mass = 2.4 MeV/c <sup>2</sup>	13.27 GeV/c <sup>2</sup>	171.2 GeV/c <sup>2</sup>	0	0	125 GeV/c <sup>2</sup>
charge = $\frac{2}{3}$	$\frac{2}{3}$	$\frac{2}{3}$	t	γ	H
spin = $\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	top	photon	Higgs boson
name = up	C	charm			
Quarks	d	s	b	g	
$\frac{1}{3}$ down	$\frac{1}{3}$ strange	$\frac{1}{3}$ bottom		gluon	
<2.2 eV/c <sup>2</sup>	<0.17 MeV/c <sup>2</sup>	<15.5 MeV/c <sup>2</sup>	0	0	
0 $\nu_e$ electron neutrino	0 $\nu_\mu$ muon neutrino	0 $\nu_\tau$ tau neutrino	0	0	
0.511 MeV/c <sup>2</sup>	105.7 MeV/c <sup>2</sup>	1777 GeV/c <sup>2</sup>	80.4 GeV/c <sup>2</sup>	0	
-1 e electron	-1 μ muon	-1 τ tau	+1 W weak force		
Leptons					Bosons (Forces)

Description: -

- Higgs bosons. Standard Model Higgs Boson

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Current physics--sources and comments ;Standard Model Higgs Boson

Notes: Includes bibliographical references (p. 381-390).

This edition was published in 1991



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## Supersymmetric Higgs Production in Vector

The Standard Model leaves the mass of the Higgs boson as a to be measured, rather than a value to be calculated. As of 2018, in-depth research shows the particle continuing to behave in line with predictions for the Standard Model Higgs boson.

## The Standard Model and Higgs physics

It is straightforward to extend the model to fit these data but there are many possibilities, so the mass are still.

### Standard Model

In particular, values of the fields generally do not commute.

## [0710.3755] The Standard Model Higgs boson as the inflaton

Journal of High Energy Physics.

## The Standard Model and Higgs physics

The Standard Model explains such forces as resulting from matter particles , generally referred to as force mediating particles.

## Supersymmetric Higgs Production in Vector

The W bosons can subsequently decay either into a quark and an antiquark or into a charged lepton and a neutrino. One known problem was that approaches, including models such as 1954 , which held great promise for unified theories, also seemed to predict known massive particles as massless.

## [1207.7214] Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC

As a result, the more massive a single virtual particle is, the greater its energy, and therefore the shorter the distance it can travel. Effectively, is a limit of the regular Mexican hat Abelian Higgs model, where the vacuum expectation value  $H$  goes to infinity and the charge of the Higgs field goes to zero in such a way that their product stays fixed.

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