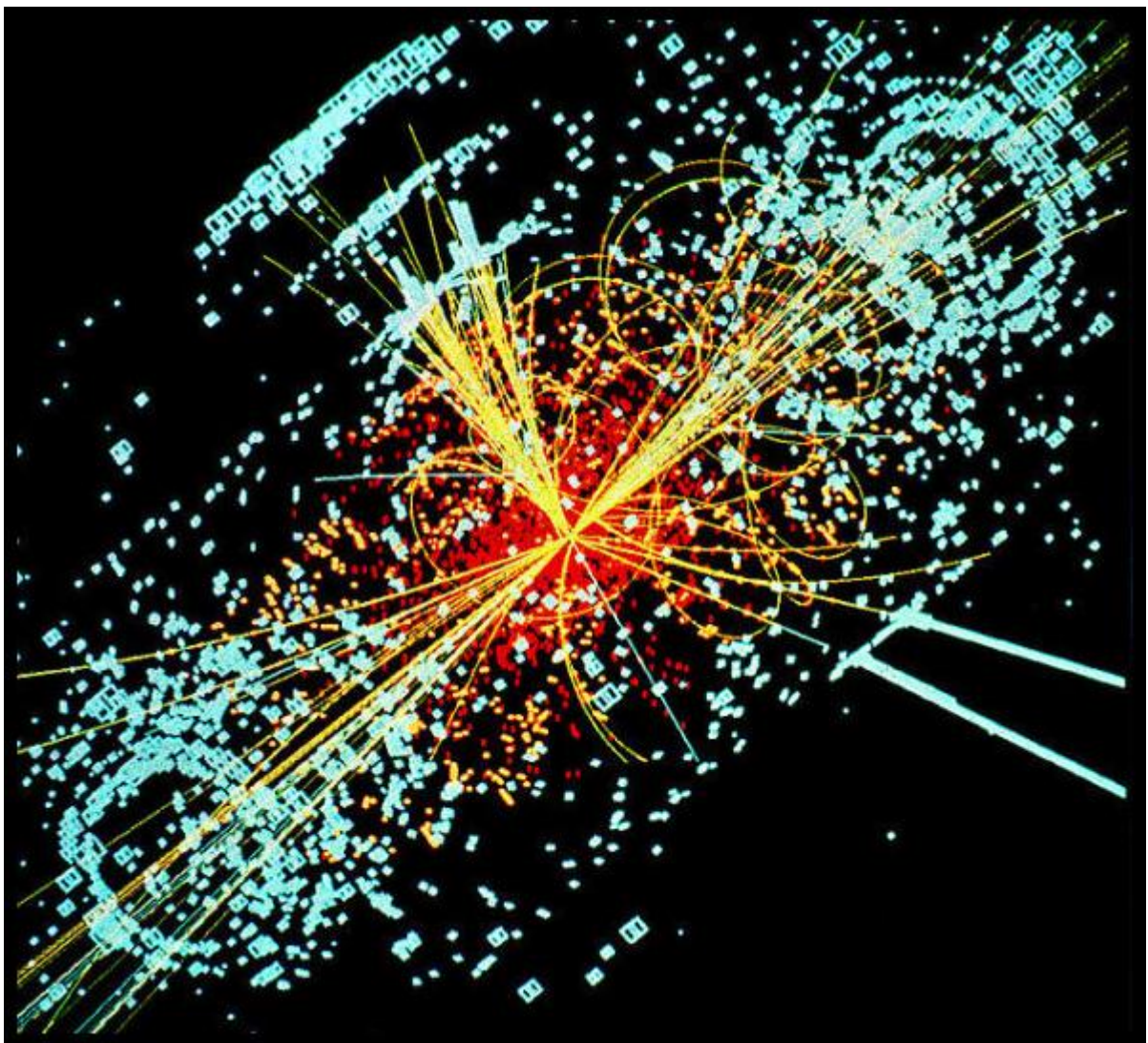


Answer on Question #51638, Physics, Astronomy Astrophysics

What is the pathway of origin of matter in universe? What are bosons and kindly tell the significance of Higg's boson.

Solution

According to modern concepts, we now observe the universe that has emerged $13,7 \pm 0,13$ milliards years ago from some initial singular state with huge temperature and density and has since continuously expanded and cooled. In recent years, scientists were able to determine that the rate of expansion of the universe, starting from a certain moment in the past, is constantly increasing, which clarifies some concepts of the theory of the Big Bang.



Higgs boson is an elementary particle (or the quantum of the Higgs field), that arises in the Standard Model of elementary particle physics due to the Higgs mechanism of spontaneous electroweak symmetry breaking. Under this model it is responsible for the inertial mass of elementary particles. The Higgs boson is a scalar particle, so, it has zero spin.