Particle looking 'more and more' like Higgs, LHC scientists say

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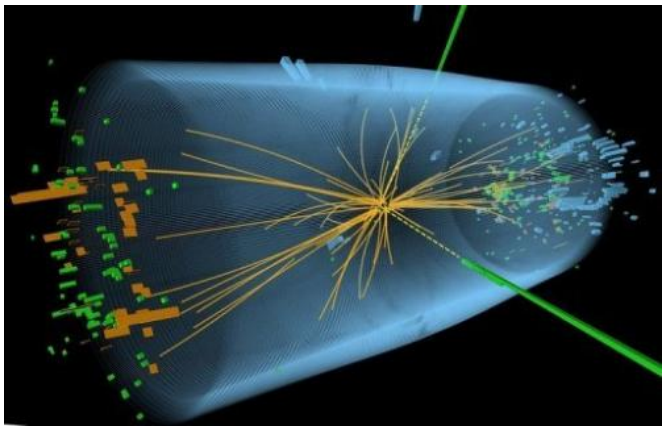

This graphic distributed by the European Organization for Nuclear Research (CERN) in Geneva shows a representation of traces of traces of a proton-proton collision measured in the Compact Muon Solenoid experience. The subatomic particle whose discovery was announced amid much fanfare last year, is looking "more and more" like it could indeed be the elusive Higgs boson, scientists said.

The subatomic particle whose discovery was announced amid much fanfare last year, is looking "more and more" like it could indeed be the elusive Higgs boson believed to explain why matter has mass, scientists said Wednesday.

But in the latest update, physicists told a conference in La Thuile, Italy, that more analysis is needed before a definitive statement can be made.

Key to a positive identification of the particle is a detailed analysis of its properties and how it interacts with other particles, the European Organisation for Nuclear Research (CERN) explained in a statement.

Since scientists' announcement last July that they had found a particle likely to be the Higgs, much data has been analysed, and its properties are becoming clearer.

One property that will allow several teams researching the particle to declare whether or not it is a Higgs, is called spin.

A Higgs must have spin-zero.

"All the analysis conducted so far strongly indicates spin-zero, but it is not yet able to rule out entirely the possibility that the particle has spin-two," said CERN.

"Until we can confidently tie down the particle's spin, the particle will remain Higgs-like. Only when we know that it has spin-zero will we be able to call it a Higgs."

British physicist Peter Higgs theorised in 1964 that the boson could be what gave mass to matter as the Universe cooled after the Big Bang.

Last July, scientists said they were 99.9 percent certain they had found the particle without which, theoretically, humans and all other joined-up atoms in the Universe would not exist.

More information: public.web.cern.ch/public/