

8 April 2008

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British physicist Peter Higgs
Reuters

'God Particle' to be Found Soon

LHC to explain the mass of fundamental particles

"Higgs Boson" or the "God Particle", was predicted almost four decades ago by British physicist Peter Higgs as a mean to explain how fundamental particles gain mass in the space-time continuum. Higgs believes that it will be found by CERN's Large Hadron Collider, expected to become operational by the end of this year. In an interview yesterday, Higgs revealed: "the likelihood is that the particle will show up pretty quickly. I'm more than 90 percent certain that it will." During the 1960s, Peter Higgs worked to prove that a Higgs field must exist, to explain how fundamental particles gain mass. At the time, his theories were quickly dismissed by CERN, but now most physicists believe that this field exists and was created in the first milliseconds after the Big Bang event, 13,73 billion years ago. The only way to prove the existence of this field is by detecting Higgs bosons. Introducing the most powerful particles accelerator of the moment, the Large Hadron Collider, capable of accelerating fundamental particles, especially hadrons, to speeds up to 99,99 percent of the speed of light, in order to collide them with each other to recreate the exact conditions of the universe in the first seconds of existence. By doing so, physicists will be able to gain a preview of some of universe's best-protected secrets. Higgs create his theory to explain how mass in lost when matter is separated into smaller and smaller constituent molecules, atoms and so on. The funny thing about the whole matter is that, although Higgs boson is often referred to as the "God Particle", Peter Higgs is a convinced atheist.**Early days** According to Higgs' theory, during the Big Bang event all matter had no mass, but that changed in only a few fractions of a second. A Higgs field might have stuck to the particles as they traveled through space, thus giving them mass. By gaining mass, fundamental particles received the capability of creating gravitational disturbances so that larger cosmic bodies were formed: galaxy clusters, galaxies, stars, planets. In a previous attempt, the Fermilab particles accelerator looking for the presence of Higgs boson failed to detect one. The probability for it to be discovered by the LHC is very high; however, Higgs declared that he has his own doubts regarding the capabilities of CERN's collider. "If it doesn't, I shall be very, very puzzled," said Higgs. Despite the fact that physicists know exactly what to look for, Higgs boson may simply be lost through the data collected by LHC's supercomputers monitoring billions of collisions at a time. "It all happens so fast that the appearance of the boson may be hidden in the data collected, and it could take a long time for the analysis to find it. I may have to keep the champagne on ice for a while yet," says Higgs.