

Discovery could hold key to beginnings of universe

By Dennis Overbye, *New York Times*

ASPEN, Colo. – Physicists working at CERN's Large Hadron Collider said Wednesday that they had discovered a new subatomic particle that looks for all the world like the Higgs boson, a potential key to an understanding of why elementary particles have mass and indeed to the existence of diversity and life in the universe.

The British physicist Peter Higgs arrived at CERN's headquarters on Wednesday.

"I think we have it," Rolf-Dieter Heuer, the director general of CERN, said in an interview from his office outside Geneva, calling the discovery "a historic milestone." His words signaled what is probably the beginning of the end for one of the longest, most expensive searches in the history of science. If scientists are lucky, the discovery could lead to a new understanding of how the universe began.

Dr. Heuer and others said that it was too soon to know for sure whether the new particle, which weighs in at 125 billion electron volts, one of the heaviest subatomic particles yet, fits the simplest description given by the Standard Model, the theory that has ruled physics for the last half-century, or whether it is an impostor, a single particle or even the first of many particles yet to be discovered. The latter possibilities are particularly exciting to physicists since they could point the way to new deeper ideas, beyond the Standard Model, about the nature of reality. For now, some physicists are calling it a "Higgslike" particle.

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