

World's largest particle collider ready to restart in 'days'

April 1 2015



A fragment of metal in one of the Large Hadron Collider's (LHC) magnet circuits has delayed putting the machine back into service

Physicists have fixed a short-circuit at the world's largest proton smasher, making the particle-hunting machine ready for a restart "within days' time" after a two-year shutdown.

A fragment of metal in one of the Large Hadron Collider's (LHC)



magnet circuits that had delayed putting the machine back into service was removed on Monday, the European Organisation for Nuclear Research (CERN) said.

"The largest collider in the world should be ready for beam (operations) in a few days' time," CERN wrote Tuesday.

The lab's super-powered hunt for particles is aimed at helping physicists to learn more about the fundamental building blocks of all matter and potentially the forces that control them.

Scientists still must carry out tests on all the circuits in the area around the fault, which happened March 21 and forced CERN to announce a several-week delay of the restart.

The LHC has been shut down since February 2013 for work intended to nearly double its muscle.

The collider is a 27-kilometre (17-mile) ring-shaped tunnel on the French-Swiss border, in which two beams of protons are sent in opposite directions.

Powerful magnets bend the beams so that they collide at points around the track where four laboratories have clusters of sensors.

In 2012, scientists at CERN, one of the world's top research centres on particle physics, announced they had discovered the Higgs boson, until then only theorised as the mass-giver to all matter—a feat crowned with the 2013 Nobel Prize in physics.

Scientists hope the new run of the LHC will shed light on theoretical concepts like dark matter and dark energy, and possible extra dimensions.



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Citation: World's largest particle collider ready to restart in 'days' (2015, April 1) retrieved 2 May 2024 from <u>https://phys.org/news/2015-04-world-largest-particle-collider-ready.html</u>

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