



CERN announces LHC to run in 2012

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Geneva, 31 January 2011. CERN¹ today announced that the LHC will run through to the end of 2012 with a short technical stop at the end of 2011. The beam energy for 2011 will be 3.5 TeV. This decision, taken by CERN management following the annual planning workshop held in Chamonix last week and a report delivered today by the laboratory's machine advisory committee, gives the LHC's experiments a good chance of finding new physics in the next two years, before the LHC goes into a long shutdown to prepare for higher energy running starting 2014.

"If LHC continues to improve in 2011 as it did in 2010, we've got a very exciting year ahead of us," said CERN's Director for Accelerators and Technology, Steve Myers. *"The signs are that we should be able to increase the data collection rate by at least a factor of three over the course of this year."*

The LHC was previously scheduled to run to the end 2011 before going into a long technical stop necessary to prepare it for running at its full design energy of 7 TeV per beam. However, the machine's excellent performance in its first full year of operation forced a rethink. Expected performance improvements in 2011 should increase the rate that the experiments can collect data by at least a factor of three compared to 2010. That would lead to enough data being collected this year to bring tantalising hints of new physics, if there is new physics currently within reach of the LHC operating at its current energy. However, to turn those hints into a discovery would require more data than can be delivered in one year, hence the decision to postpone the long shutdown. If there is no new physics in the energy range currently being explored by the LHC, running through 2012 will give the LHC experiments the data needed to fully explore this energy range before moving up to higher energy.

"With the LHC running so well in 2010, and further improvements in performance expected, there's a real chance that exciting new physics may be within our sights by the end of the year," Said CERN's Research Director, Sergio Bertolucci. *"For example, if nature is kind to us and the lightest supersymmetric particle, or the Higgs boson, is within reach of the LHC's current energy, the data we expect to collect by the end of 2012 will put them within our grasp."*

The schedule announced today foresees beams back in the LHC next month, and running through to mid December. There will then be a short technical stop over the year before resuming in early 2012.

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1. CERN, the European Organization for Nuclear Research, is the world's leading laboratory for particle physics. It has its headquarters in Geneva. At present, its Member States are Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, the Netherlands, Norway, Poland, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom. India, Israel, Japan, the Russian Federation, the United States of America, Turkey, the European Commission and UNESCO have Observer status.