

News

LHC Update: LHC Cooled Down & Starts for 2011 Run

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Abstract

This news article contains LHC updates for the period of February 1, 2011 to February 20, 2011 which appeared in viXra Log at <http://blog.vixra.org>.

Key Words: LHC, update, cooled down, 2011.

February 11, 2011: [LHC cooled down for 2011 run](#)

The Large Hadron Collider's [cryogenic systems](#) have now cooled down all the superconducting magnets to 1.9 degree Kelvin as required for this year's physics runs. This means that the main accelerator ring is essentially ready for beam injection which is scheduled to start on 21st February.

The plan will be to bring the collider back to last years peak luminosity of 0.2/nb/s as quickly as possible so that the experiments can start to add significant data to what they have already collected. The bunch spacing used will be 75 ns instead of the 150 ns used before. With this closer packing it should be possible to circulate about 900 bunches in each beam to more than double the beam intensity. Further luminosity increases will be achieved with a tighter squeeze of the beams at the collision points. Overall they hope to slowly progress towards 1.0/nb/s luminosity then just work on maximum running efficiency.

Some problems identified towards the end of last year will have to be dealt with. This includes Unidentified Falling Objects in the beam pipe and a build up of electron clouds. To clean the pipes they will "scrub" with extra high intensity beams at lower energy using 50ns spacing to pack in even more bunches.

As last year, the proton physics operations will end in November to allow time for some more heavy ion collisions. This year they will aim for a significant increase in luminosity for these collisions. At the end of the extended proton physics run in 2012 they may try out collisions of protons on heavy ions.

As last year we plan to closely follow the progress on viXra Log.

February 19, 2011: [The LHC starts its 2011 run](#)

This evening the Large Hadron Collider started circulating proton beams in the main ring to start the 2011 runs, two days ahead of schedule. Hopefully first collisions are not too far away.

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