


B2
Symmetry and Relativity
Lecture 13



LHC Safety

Asking a Judge to Save the World, and Maybe a Whole Lot More



Part of a detector to study results of proton collisions by a particle accelerator that a federal lawsuit filed in Hawaii seeks to stop. Valerio Mezzanotti for The New York Times

By **Dennis Overbye**

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More fighting in Iraq. Somalia in chaos. People in this country can't afford their mortgages and in some places now they can't even afford rice.

None of this nor the rest of the grimness on the front page today will matter a bit, though, if two men pursuing a lawsuit in federal court in Hawaii turn out to be right. They think a giant particle accelerator that will begin smashing protons together outside Geneva this summer might produce a black hole or something else that will spell the end of the Earth and maybe the universe.

Scientists say that is very unlikely though they have done some checking just to make sure.

The world's physicists have spent 14 years and \$8 billion building the Large Hadron Collider, in which the colliding protons will

LHC Safety



Review of the Safety of LHC Collisions

LHC Safety Assessment Group^(*)

lsag@cern.ch

Summary

The safety of collisions at the Large Hadron Collider (LHC) was studied in 2003 by the LHC Safety Study Group, who concluded that they presented no danger. Here we review their 2003 analysis in light of additional experimental results and theoretical understanding, which enable us to confirm, update and extend the conclusions of the LHC Safety Study Group. The LHC reproduces in the laboratory, under controlled conditions, collisions at centre-of-mass energies less than those