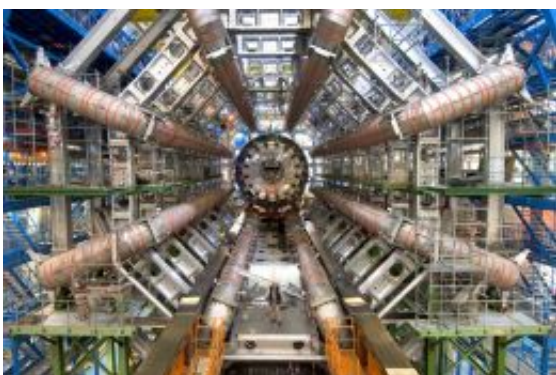


# Atom smasher catches 1st high-energy collisions

December 9 2009, By ALEXANDER G. HIGGINS , Associated Press  
Writer

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(AP) -- The world's largest atom smasher has recorded its first high-energy collisions of protons, a spokeswoman said Wednesday.

Physicists hope those collisions will help them understand suspected phenomena such as dark matter, antimatter and ultimately the creation of the universe billions of years ago, which many theorize occurred as a massive explosion known as the Big Bang.

The collisions occurred Tuesday evening as the Large Haldron Collider underwent test runs in preparation for operations next year, said Christine Sutton of the European Organization for Nuclear Research, or [CERN](http://cern.ch).

Two beams of circulating particles traveling in opposite directions at 1.18 trillion electron volts produced the collisions, she said. The Atlas "experiment," one of four major detectors in cathedral-sized rooms in the collider's underground tunnel at Geneva, had part of its equipment turned on and could register collisions.

"They recorded a handful of collisions, and one of them looks quite nice, so it's on their Web site," she said.

Sutton said the collisions occurred when the machine was ramped up briefly to 1.18 TeV. That same level set a world record for [proton](#) acceleration in November, when Geneva's particle beams traveled with 20 percent more power than Fermilab near Chicago, which previously held the record.

The operators plan many more collisions at lower energies so the experiments can calibrate their equipment and prepare for more advances ahead.

CERN then plans more collisions at 1.18 TeV to give all experiments the opportunity to record data at that level, but new scientific discoveries are not expected before next year when the beams are ramped up still higher, to 3.5 TeV.

That will be 3.5 times more energy that has been reached at Fermilab, previously the most powerful collider.

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