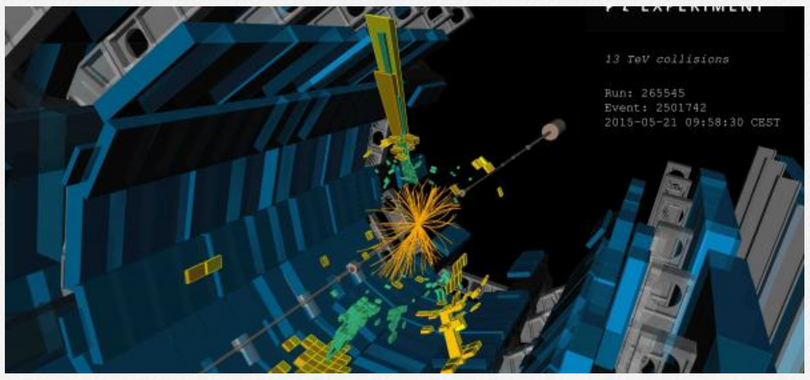
ATLAS@home



ATLAS@Home is a research project that uses volunteer computing to run simulations of the ATLAS experiment at CERN. You can participate by downloading and running a free program on your computer.

ATLAS is a particle physics experiment taking place at the Large Hadron Collider at CERN, that searches for new particles and processes using head-on collisions of protons of extraordinary high energy. Petabytes of data were recorded, processed and analyzed during the first three years of data taking, leading to up to 300 publications covering all the aspects of the Standard Model of particle physics, including the discovery of the Higgs boson in 2012.

Large scale simulation campaigns are a key ingredient for physicists, who permanently compare their data with both "known" physics and "new" phenomena predicted by alternative models of the universe, particles and interactions. This simulation runs on the WLCG Computing Grid and at any one point there are around 150,000 tasks running. You can help us run even more simulation by using your computer's idle time to run these same tasks.

On this page you can see ATLAS monitoring of the ATLAS tasks running on LHC@Home, as well as how ATLAS@Home ("BOINC") compares to the other sites on the WLCG.

The program you will download runs simulation software inside a virtual machine hosted by your computer. The virtual machine image is ~500MB but is only downloaded once. Each workunit downloads a small set of input data and runs for approx 1 to 2 hours depending on the computer's processor speed.

Please consult or post on the message boards to learn more about the work currently available, or in case of problems.

The Physics of ATLAS@Home

No knowledge of particle physics is required, but for those interested in the physics processes simulated in ATLAS@Home as well as the ATLAS experiment itself visit the ATLAS web pages.

ATLAS@Home tasks progress, for each task (number of jobs done/total number of jobs):

ATLAS@home is made possible through the following technologies: nordugrid, PanDA and geant4.

ATLAS@home

ATLAS application preference

BOINC site

ATLAS@home on the web

- ATLAS web site
- ATLAS jobs running on BOINC

Want to participate?

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