

Learning
with **ATLAS@CERN**

Two year long program: ended 30/11/2010

Main Goal: Pedagogical design, three target group missions, classification in portal



Lifelong Learning Programme



Education and Culture DG



Education, Audiovisual & Culture
Executive Agency

Learning with ATLAS @CERN

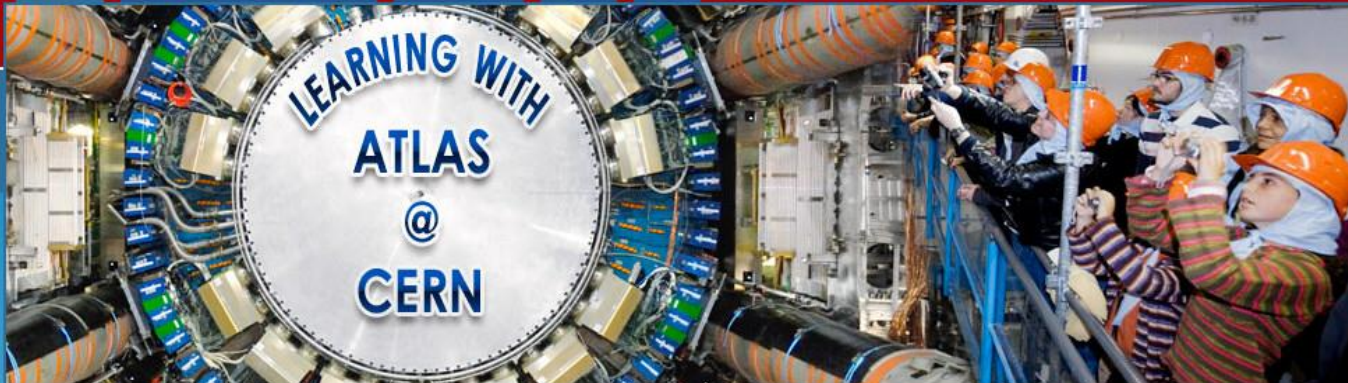
An educational project in LLP of EC transversal Action (schools, universities, science centers)

Partners	
National and Kapodistrian University of Athens	GR (<i>coordinator</i>)
University of Stockholm	S
Austrian Ministry of Education	AT
University of Birmingham	UK
Ellinogermaniki Agogi	GR
HEUREKA	FI
House of Science	S
University of Bayreuth	DE
European Physical Society	GR
CERN	Associate
LBL	Associate
Institute of Physics (Belgrade)	Subcontractor

Learning with ATLAS @CERN

- Developed a pedagogical framework to blend informal and formal learning
- Developed advanced pedagogical **scenarios**
- Developed and evaluated a web based environment (**portal**)
- Piloted and demonstrated the LA@CERN approach in **schools**, **universities** and **science centers**
- Created virtual learning communities of educators, learners and researchers
- Performed an extended validation study of the LA@CERN approach
- Implemented a systematic dissemination and exploitation strategy for the project's result

ATLAS@CERN Repository

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Welcome to Learning with ATLAS@CERN portal

The portal for Learning with ATLAS@CERN is an experimental laboratory for students, teachers and science museum visitors. The aim is to improve science instruction by expanding the resources for teaching and learning in schools, universities and science centers & museums, providing more challenging and authentic learning experiences.

Explore Learning with ATLAS@CERN Repository: The Learning with ATLAS@CERN Repository includes educational materials (lesson plans, student projects, videos, animations and high quality images of unique high energy physics phenomena)

Learn More from the Project Page

Read the News from the LHC

Share your content: The Learning with ATLAS@CERN Tool-Box will provide you with all the necessary tools to prepare your content for the ATLAS@CERN Repository.

By being a registered user of the portal you can download and upload educational material from the ATLAS@CERN Repository and access ATLAS@CERN Tool-Box. Otherwise, as a first step, if you just want to just browse at the available educational material, you can go directly to the repository.

Join the Learning with ATLAS@CERN educational community and explore new ways of teaching science!

Join ATLAS@CERN educational community

Username: *

Password: *

[Log in](#)

- [Create new account](#)
- [Request new password](#)

Languages

- [English](#)
- [Finnish](#)
- [French](#)
- [Deutsch](#)
- [Greek](#)
- [Svenska](#)

ATLAS@CERN Repository

Home

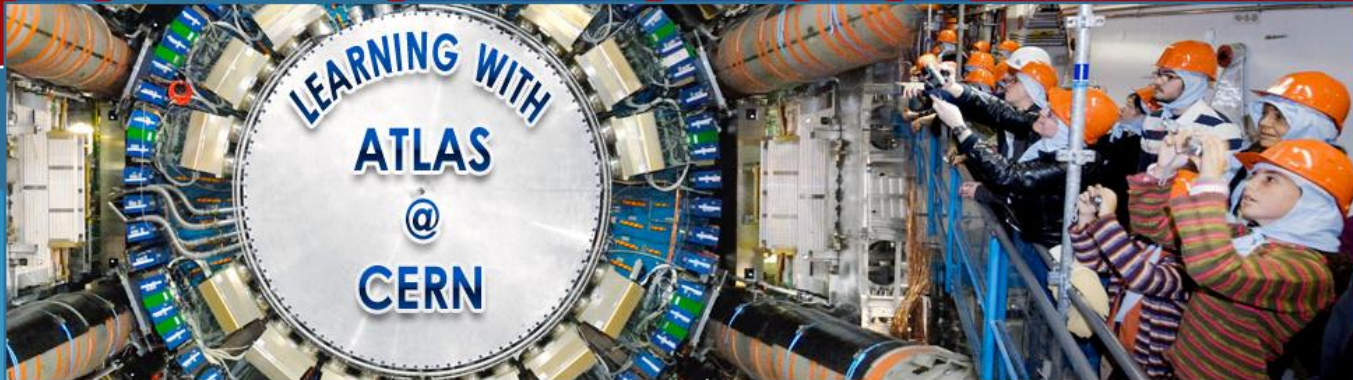
ATLAS@CERN Repository

ATLAS@CERN Tool-Box

Learn More

News

Help



ATLAS@CERN Repository

Learning with ATLAS@CERN Repository contains educational material in the form of **educational content** (photos, videos, animations, exercises, graphs, links) and of **learning missions** (structured lesson plans organized according to specific pedagogical models such as inquiry based Learning and Guided Research). Users can search for the educational materials in the "Explore Learning with ATLAS@CERN" section or to upload their own materials to the Learning with ATLAS@CERN Repository, using the "Share your Content" section.

moCERN

ATLAS@CERN Repository goes mobile! Now ATLAS@CERN Educational Content is available for mobile and handheld devices. Visit **Mobile ATLAS@CERN** and explore the repository through your mobile phone.

Explore ATLAS@CERN

Search for Educational Content (130)



Search for Learning Missions (43)



70% for schools

Share your Content

Upload Educational Content

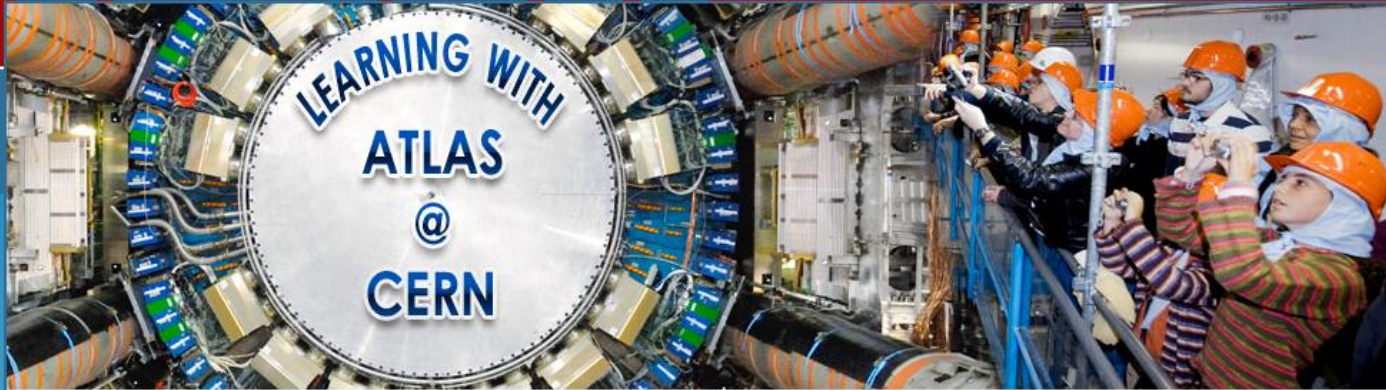
+ 000000



Upload Learning Mission



ATLAS@CERN Repository

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Search the Repository

Most Recent Educational Content

- An Introduction to Bubble Chambers
- Science4all
- NANOREISEN: Adventure beyond the decimal
- Kernfusion

Search for Educational Content

Classification

Selections

Nothing has been selected yet.

- | | |
|-----------------------------|--------------------------------|
| <input type="checkbox"/> de | <input type="checkbox"/> 6-9 |
| <input type="checkbox"/> el | <input type="checkbox"/> 9-12 |
| <input type="checkbox"/> en | <input type="checkbox"/> 12-15 |
| <input type="checkbox"/> fi | <input type="checkbox"/> 15-18 |
| <input type="checkbox"/> fr | <input type="checkbox"/> 18-25 |
| <input type="checkbox"/> sv | <input type="checkbox"/> 25+ |

Most popular Educational Content

- moCern (Mobile CERN) - deutsche Online-Version
- LHC Game
- Fun Facts about the LHC and Elephants
- Powers of 10

Top Rated Educational Content

- Fun Facts about the LHC and Elephants
- LHC Game
- Powers of 10
- Analysing Events in the ATLAS detector with Minerva

ATLAS@CERN Repository

powered by Innovalia S.A.

Learning with ATLAS @ CERN

online XML creator

LOM records ▾

www.learningwithatlas-portal.eu

General

Title, identifier, languages, description etc

Classification

terms

Life Cycle

Contribute, status

Metadata

Contribute, language

Technical

format, size, requirements

Educational

Resources, end user, age range, time

Rights

Cost, copyright

[← Back](#)

[Next →](#)

Step 1: General

Title













Give the title of the learning object.
Leave blank for unsupported languages

Description



















Textual description of the content of this learning object. For example 'Information and material concerning the experimental study of rectilinear motion'

Languages

-  en
-  de
-  fi
-  el
-  fr
-  sv

Language is the primary human language or languages used within this learning object to communicate to the intended user.

Keywords













Separate keywords with comma. A keyword is a text or phrase describing the topic of this learning object. For example 'linear motion'

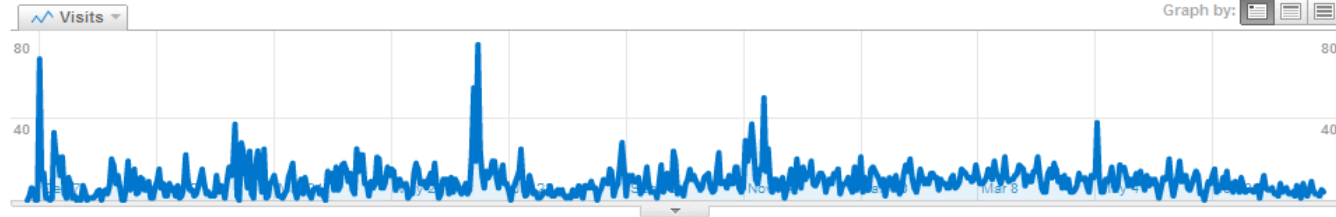
ATLAS@CERN Repository

Export Email

Advanced Segments: All Visits

Dashboard

Dec 1, 2009 - Aug 23, 2011



Site Usage

5,767 Visits

30,586 Pageviews

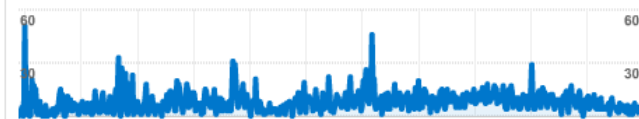
5.30 Pages/Visit

41.98% Bounce Rate

00:05:43 Avg. Time on Site

60.78% % New Visits

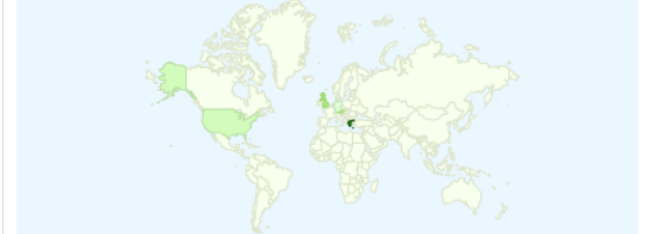
Visitors Overview



3,513 Visitors

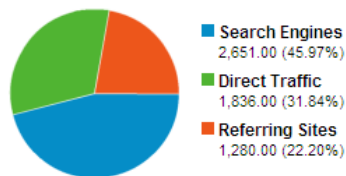
[view report](#)

Map Overlay



[view report](#)

Traffic Sources Overview



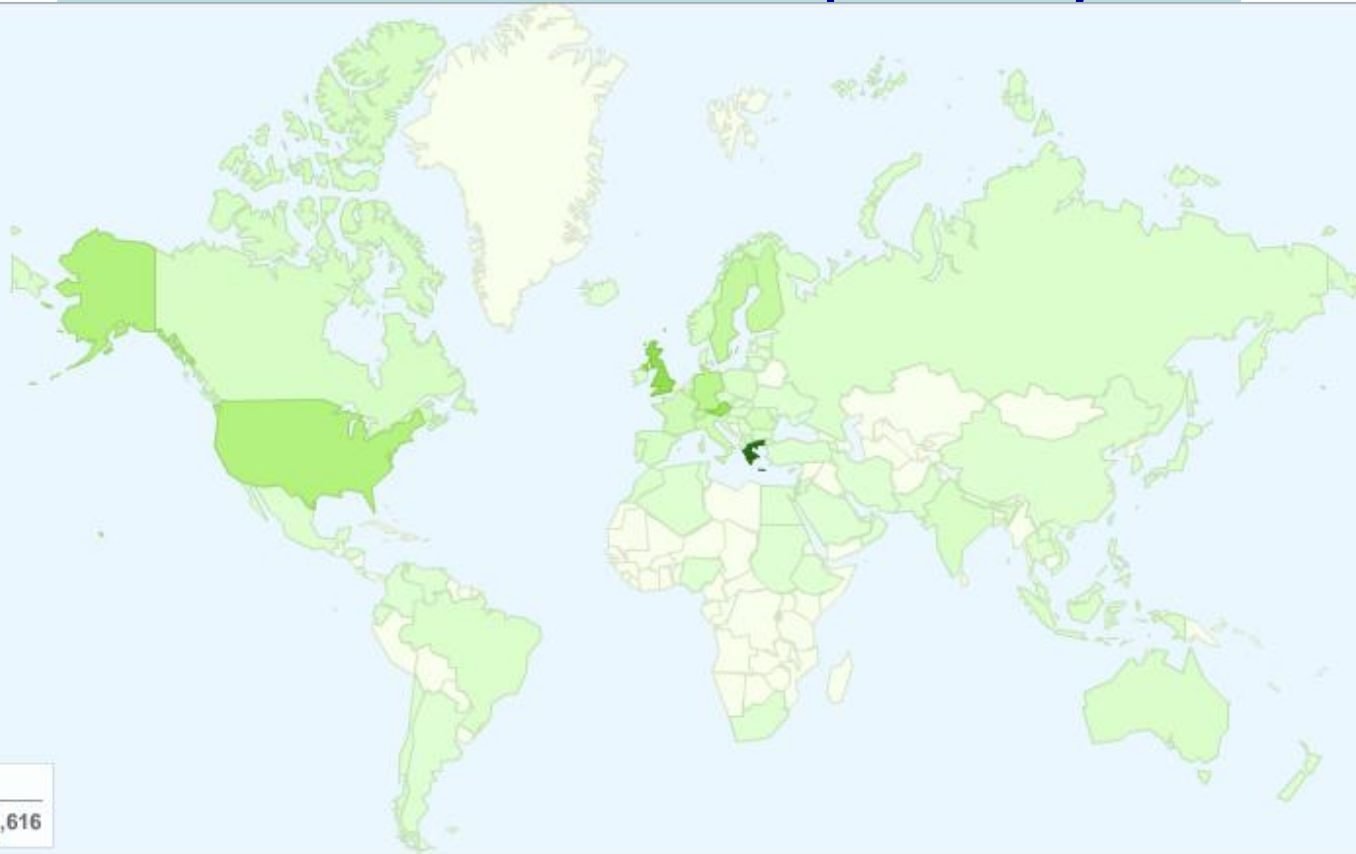
[view report](#)

Content Overview

Pages	Pageviews	% Pageviews
/	4,610	15.20%
/en/repository	2,412	7.95%
/~lacern/repository/search/educont	1,678	5.53%
/~lacern/repository/search/learnact	1,110	3.66%
/el	766	2.53%

[view report](#)

ATLAS@CERN Repository



Visits
1 1,616

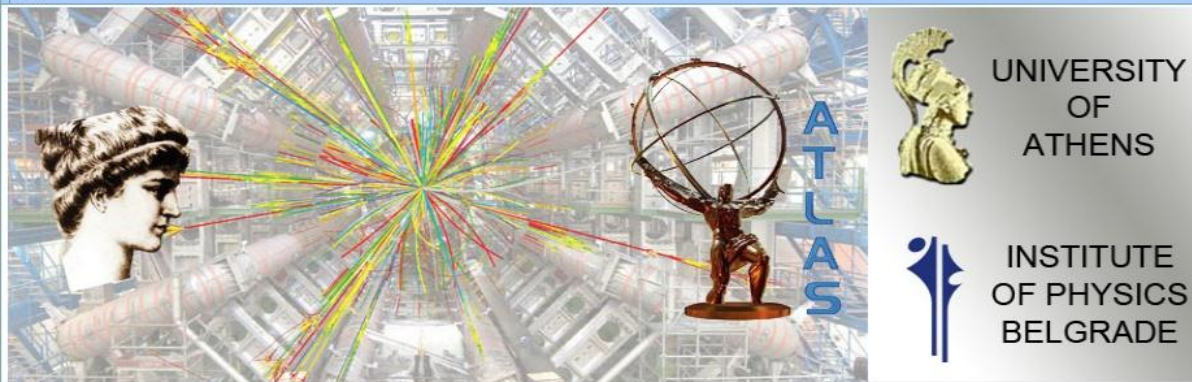
	Detail Level: <input type="text" value="Country/Territory"/>	Visits ↓	Pages/Visit	Avg. Time on Site	% New Visits	Bounce Rate
1.	Greece	1,616	8.32	00:09:02	43.25%	29.52%
2.	United Kingdom	653	4.59	00:05:05	65.70%	35.99%
3.	Austria	614	4.89	00:04:53	50.33%	32.08%
4.	United States	410	1.85	00:01:58	87.07%	74.39%
5.	Germany	320	4.25	00:03:00	70.94%	48.12%
6.	Sweden	248	6.10	00:05:16	47.58%	37.50%
7.	Finland	226	4.85	00:04:22	61.06%	40.27%
8.	Switzerland	219	5.41	00:05:15	64.38%	38.81%
9.	France	139	3.29	00:02:38	87.05%	46.76%
10.	Italy	133	3.28	00:03:48	61.65%	55.64%

ATLAS@CERN tool-box/ event displays

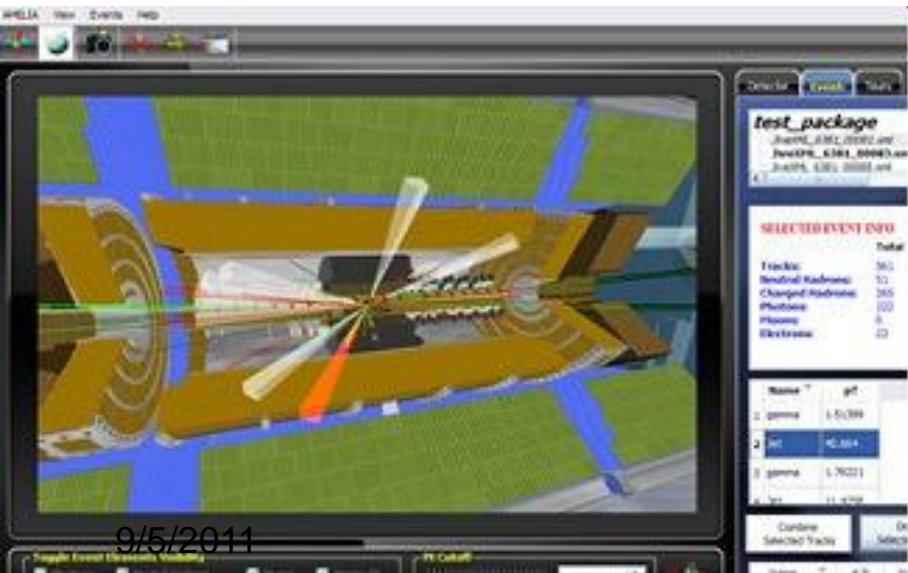
Hypatia

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Home



H Y P A T I A
HYbrid Pupil's Analysis Tool for Interactions in ATLAS



MINERVA

Masterclass Involving Event Recognition Visualised with Atlantis.

[Start MINERVA](#) [Masterclass resources](#)

MINERVA is a masterclass tool for students to learn more about the ATLAS experiment at CERN. It is based on a simplified setup of the ATLAS event display, Atlantis, which allows users to visualise what is happening in the detector. The aim is to look at ATLAS events and try to recognise what particles are seen in the detector. There are tutorial events, then a selection of events to categorise and finally a search for the Higgs! The project is a joint venture between the Rutherford Appleton Laboratory (RAL) and the University of Birmingham.

The Higgs search section is currently under construction

European Organization for Nuclear Research

9/5/2011

Austrian Ministry of Education Scenario



Cern



LHC



ATLAS



Particle Physics



High Energy Physics



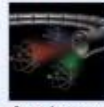
Quantum Physics



Higgs



Standard Modell



Accelerators



Particle Collision



Matter



Elementary Particles



Mass



Forms of Energy



Wave-Particle Duality



Cosmic Rays



Big Bang



Black Holes



Albert Einstein



Hawking



moCERN
mobile CERN



FH JOANNEUM
INFORMATIONSMANAGEMENT

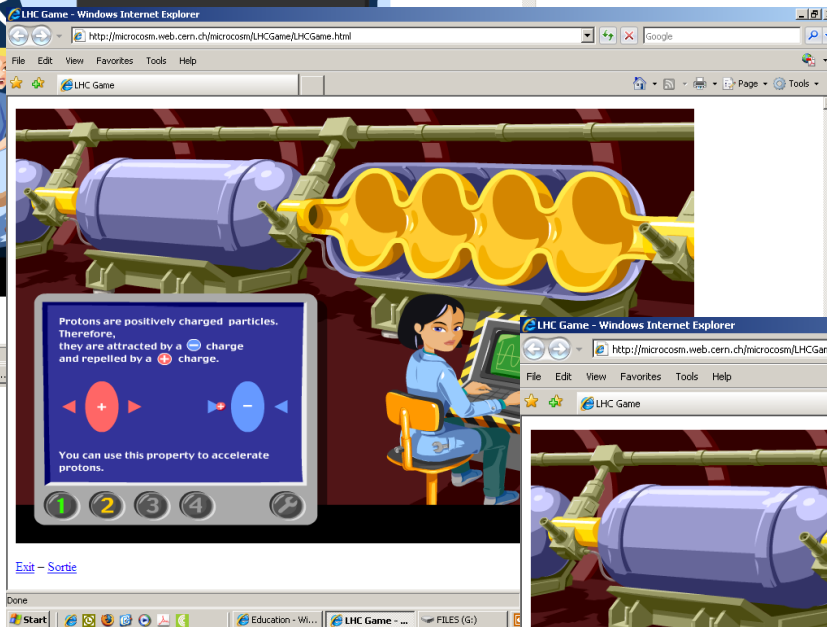
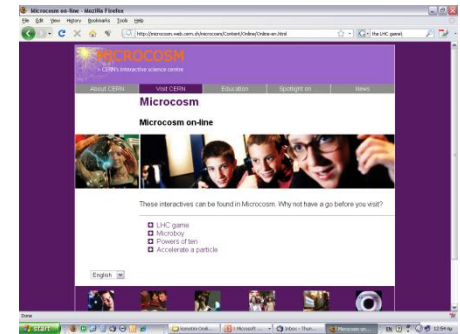
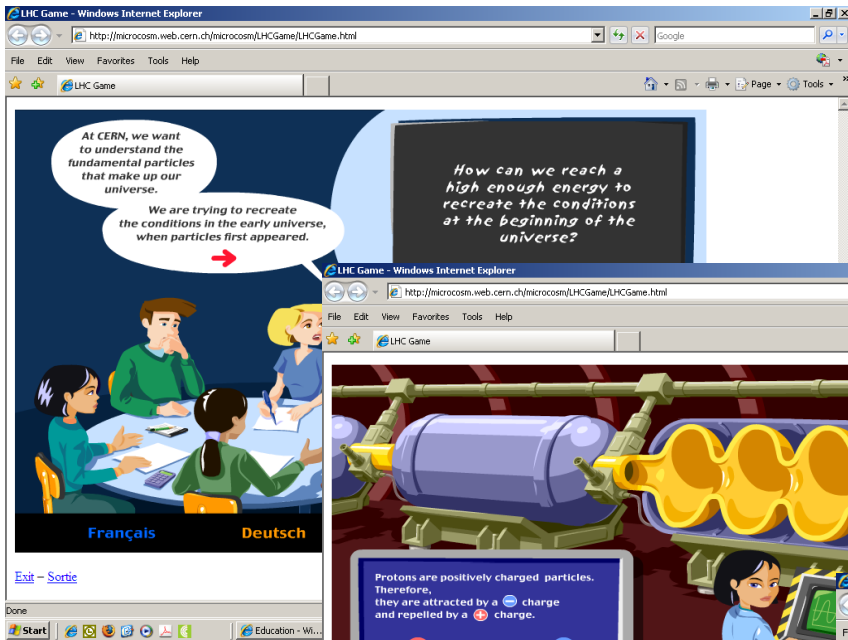
COOPERATION PARTNERS:

bm:uk



Credits

The LHC game



Linear acceleration

The hunt for Higgs

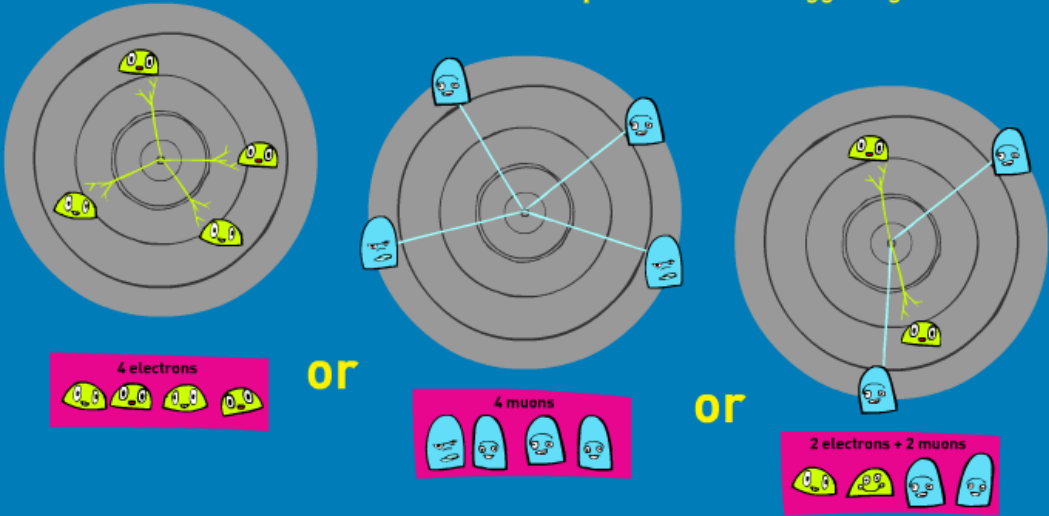
Science Museum | Building a particle smasher | Building a particle smasher - Windows Internet Explorer

http://www.sciencemuseum.org.uk/antenna/bigbang/huntforhiggs/index.asp

Science Museum | Building a particle smasher | Buildin...

Home > Big Bang >

Scientists have some ideas about the **combinations of particles** that Higgs might turn into.



The image shows three target diagrams on a blue background. Each target has concentric circles and a central bullseye. Yellow lines represent particle tracks hitting the targets. Below each target is a pink box containing the expected particle combinations: '4 electrons' (four yellow electron icons), '4 muons' (four blue muon icons), and '2 electrons + 2 muons' (two yellow electron icons and two blue muon icons). The word 'or' is placed between the boxes.

4 electrons

or

4 muons

or

2 electrons + 2 muons

If we see **one of the combinations** they expect, it will mean a Higgs might have been produced.

Done

Internet 100%

start

Microsoft PowerPoint ...

Science Museum | Buil...

EN

1:32 pm

EU Rating

Summary scoring sheet	
Objectives results and products	9
Coherence between work plan and activities during the life of the project	9
Partnership	9
Project management	10
Financial management	9
Evaluation	10
Dissemination	9
Global score	90%

Overall evaluation

Overall comment:

The LA@CERN project partnership has demonstrated good planning, strong management, and clear partner commitment and energy. These have allowed the successful realisation of an innovative idea with public support. The project has demonstrated considerable effort to reach users at schools, universities, science centres, and in the pedagogical and scientific communities. The broad user-centred focus that was central to design, validation, testing, and dissemination, has involved a very large number of relevant potential end users and decision makers. The very detailed and rigorous results clearly demonstrate demand, as well as deployment routes for wider uptake. The project can be judged a highly successful investment.

Strong points:

The main strengths are evident in the original innovative idea, the strong partnership, the user-centred approach, and the good management that has steered the consortium towards a good outcome.

Weak points:

There are no significant weaknesses apparent in LA@CERN, and it is hoped they will continue the same level of energy in promotion and sharing of the evident products of the initiative. This is the main risk - but it seems unlikely that this energetic partnership will not continue efforts.