



SUISSE
FRANCE

LHCb

ATLAS

CERN Meyrin

CERN Prévessin

SPS 7 km

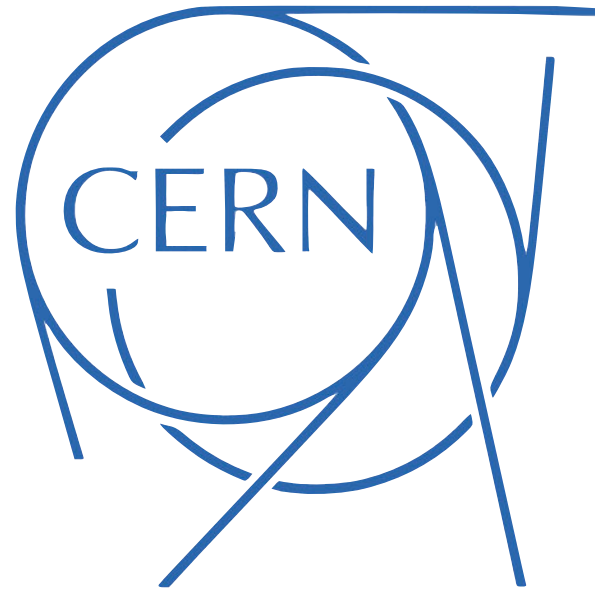
ALICE

CMS

Resources in Education

Konrad Jende, Caribbean Teacher Programme 2015

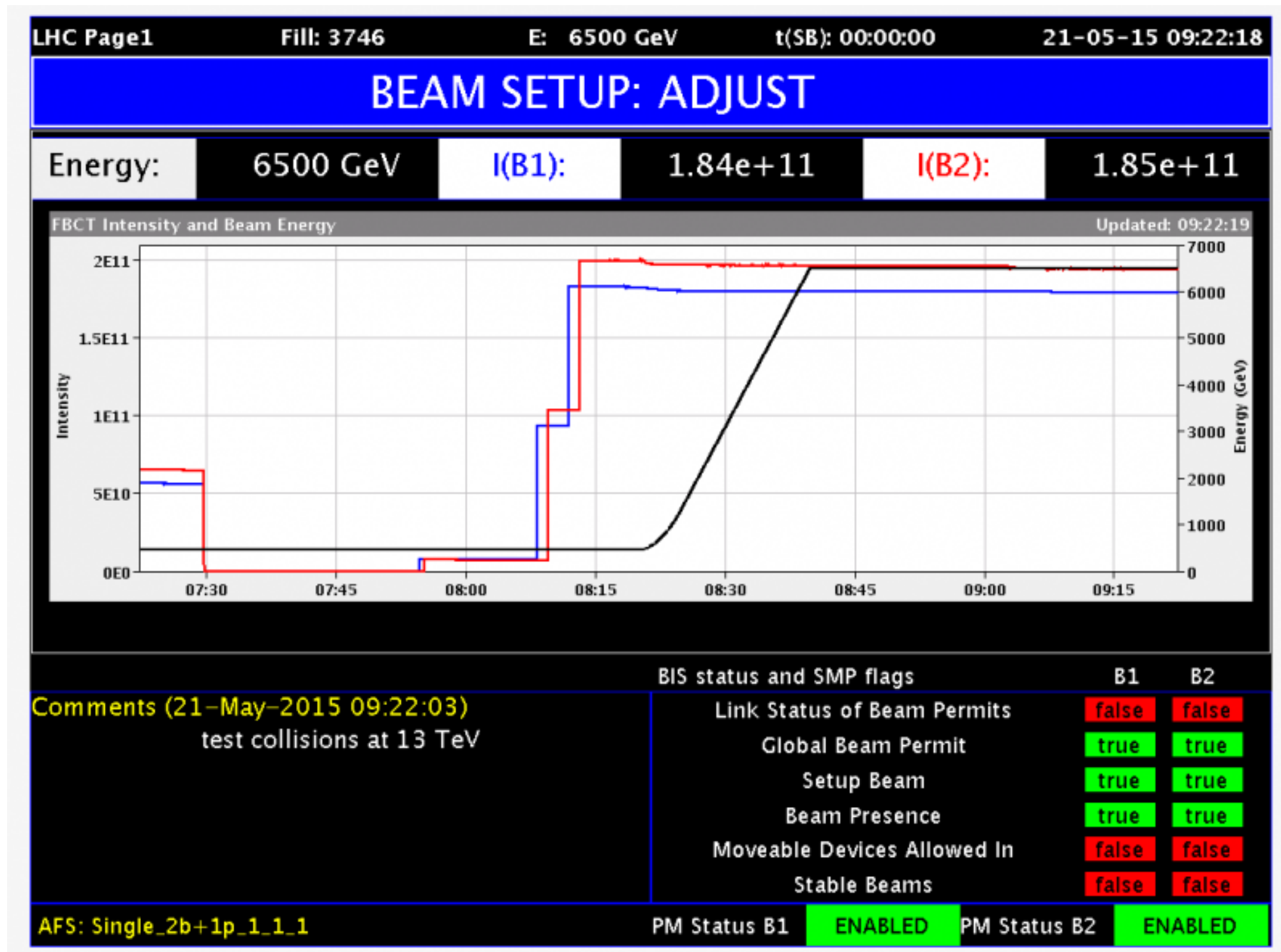
LHC 27 km



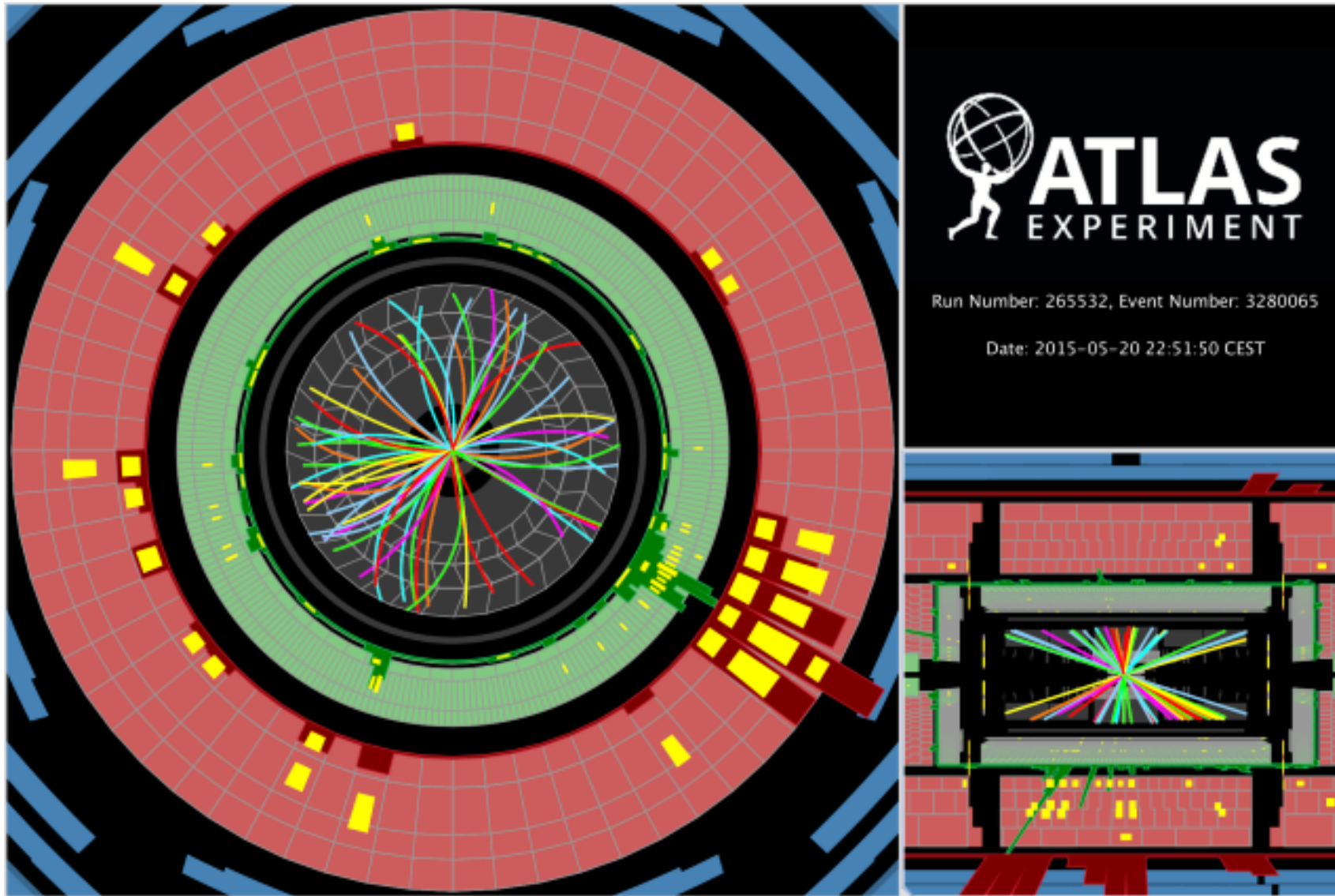
Resources in Education

Konrad Jende, Caribbean Teacher Programme 2015

Updates



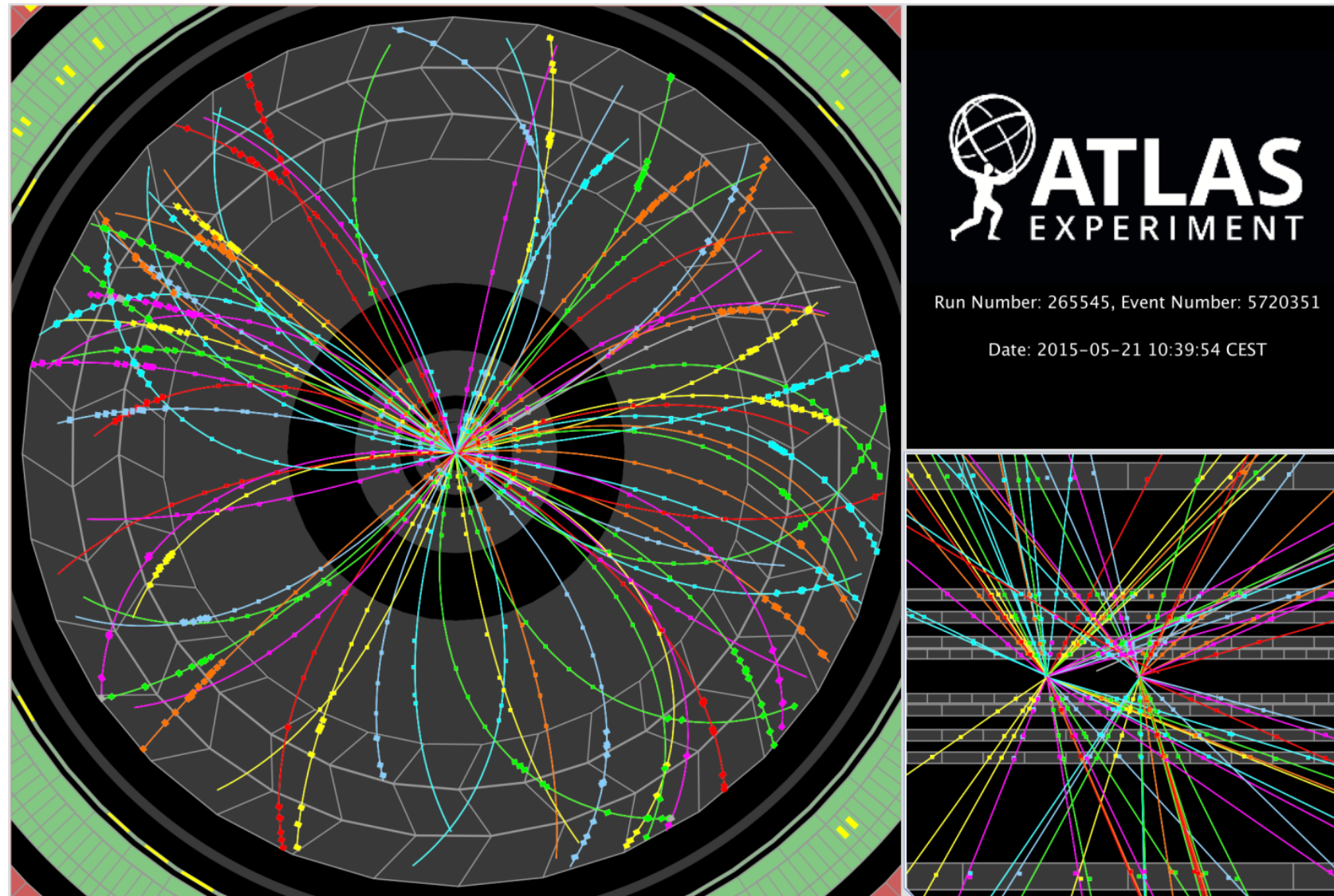
Updates



Display of a proton-proton collision event recorded by ATLAS on 20 May 2015, at 13 TeV collision energy. Tracks are reconstructed from hits in the outer parts of the inner tracking detector which were switched on at the time. The green and red bars indicate energy deposits in the Liquid Argon and Scintillating Tile calorimeters respectively.

Source: <http://cds.cern.ch/record/2017404>

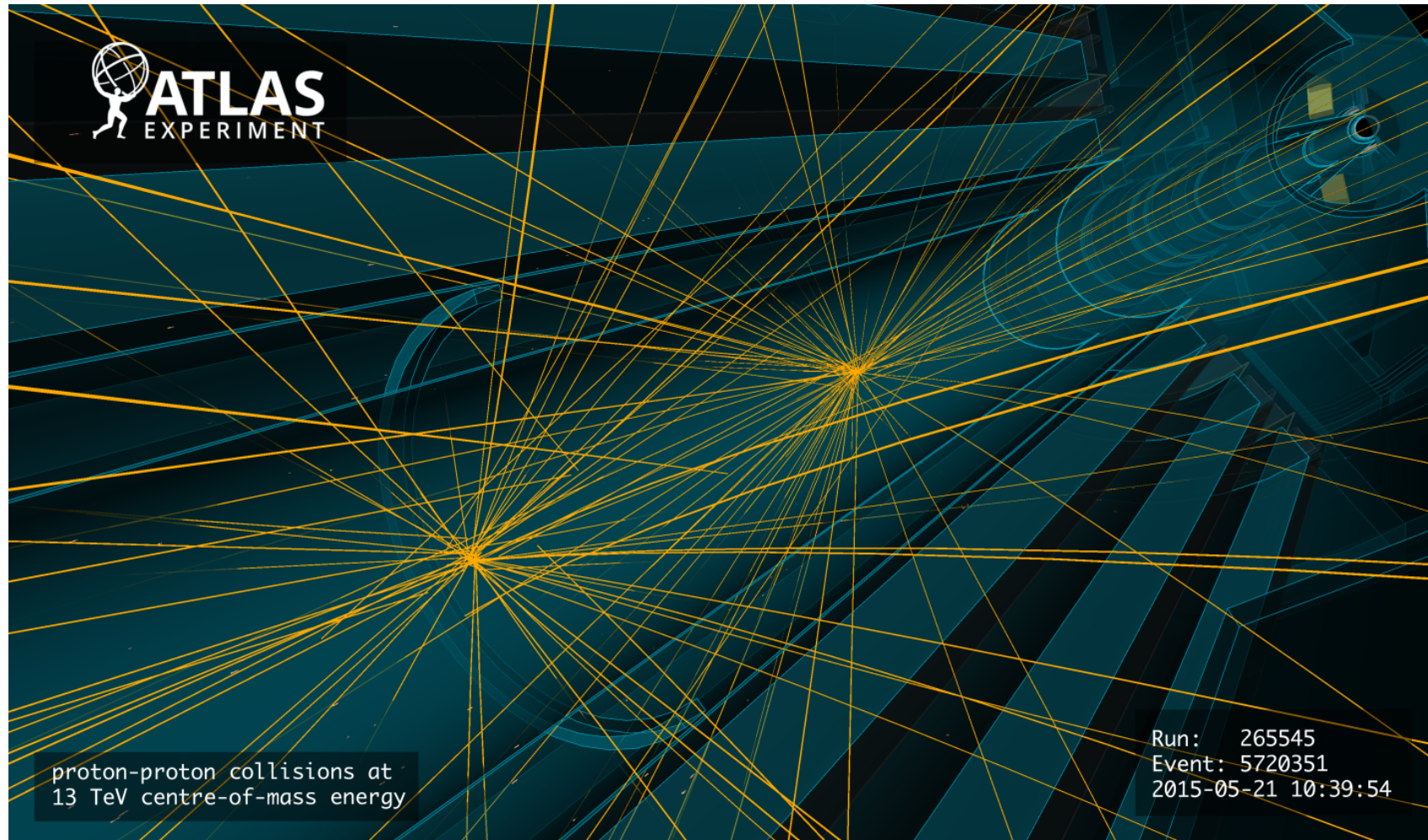
Updates



Displays of a proton-proton collision event recorded by ATLAS on 21 May 2015, at 13 TeV collision energy. Tracks reconstructed from hits in the inner tracking detector are shown to originate from two interaction points, indicating a pile-up event.

Source: <http://cds.cern.ch/record/2017716>

Updates



Displays of a proton-proton collision event recorded by ATLAS on 21 May 2015, at 13 TeV collision energy. Tracks reconstructed from hits in the inner tracking detector are shown to originate from two interaction points, indicating a pile-up event.

Source: <http://cds.cern.ch/record/2017716>

Updates



Updates



CERN Education

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The CERN education website offers informations about teacher programmes and educational resources for schools.

[Teacher Programmes](#)



CERN offers courses for physics teachers in English or in your mother tongue, lasting between 3 days and 3 weeks. You will experience the atmosphere of frontier research at the LHC, meet with scientists and teaching colleagues, and find new ideas on bringing modern physics into the classroom.

[Teaching Resources](#)



Find presentations, recorded lectures, teaching materials, movies, animations, games, posters, photos, games and ideas for practical activities in the classroom. All this material is available for free when used for educational purposes.

[Visit CERN](#)



Take a tour of our laboratory, either from your classroom or by [coming to CERN](#).

**Forthcoming events**

7 - 12 Sep, Italian Teachers Programme

17 - 21 Sep, Dutch Teachers Programme

18 - 19 Sep, Danish Teachers Programme

30 Sep - 3 Oct, UK Teachers Programme

5 - 11 Oct, Bulgarian Engineering Teachers Programme

12 - 17 Oct, German Teachers Programme

12 - 17 Oct, Italian Teachers Programme

Archive of all programmes

**News**

CERN - "Beam line for schools" - Competition 2014



Cosmic Ray Teaching Module [In German]


Resource 1

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Teaching Materials

[Cosmic Ray Teaching Module \[In German\] NEW](#)

[The Amazing World of Atoms NEW](#)

[Antimatter Teaching Module NEW](#)

[From the Big Bang to the LHC NEW](#)

[CERN](#)

[Particle Physics](#)

[Cosmology](#)

[Principles of Experimental Physics](#)

[Introduction to Accelerators](#)

[Applications](#)

[Multimedia material](#)

Teaching Resources

The Teaching Materials presented here will allow teachers to introduce topics in modern physics to middle and high school students, and to do so in interesting and novel ways. In addition to the new Antimatter Teaching Module (a series of lesson plans, background materials and extension topics on antimatter, aimed at students 14-15 years), these materials include presentations, recorded lectures, teaching materials, movies, animations, games, posters, photos, games and ideas for practical activities in the classroom. All this material is available for free when used for educational purposes.

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Resource 2



High School Teachers at CERN



WWW.CERN.CH [TEACHING MATERIALS](#) [HST PROGRAMMES](#)
[VISITING CERN](#) [LINKS & BOOKS](#) **HOME**

The main goal of this site is to document the work done by the participants of the programme and to collect material useful for classroom activities and public education in physics, which is then available for everyone.

NEWS

Applications for HST2014 are now being accepted

FOR MORE INFORMATION PLEASE FOLLOW THE LINK BELOW

HST TEACHING MATERIALS

- [Accelerators](#)
- [Bubble chambers](#)
- [Build a Cloud Chamber](#)
- [Feynman diagrams](#)
- [Detectors](#)
- [Experiments](#)
- [About CERN and HEP](#)
- [General Physics](#)
- [Syllabus review](#)



The First Z Particle 30th April 1983 (CERN Photo)

PHYSICS LINKS

- [General Physics](#)
- [Particle Physics](#)
- [Research Organizations](#)
- [Books and Journals](#)
- [CERN's Educational Page](#)

VISITING CERN


- [Microcosm](#)
- [CERN websites](#)

HST PROGRAMMES

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014

[SITEMAP](#) [WORKING AREA](#)


Resource 3



YEARS/ANS CERN

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Multimedia

Discover all the photos and videos of the CERN60 celebrations and download your posters, wallpaper and much more!

[CERN 60](#) > [Multimedia](#) > [CERN exhibitions content](#)

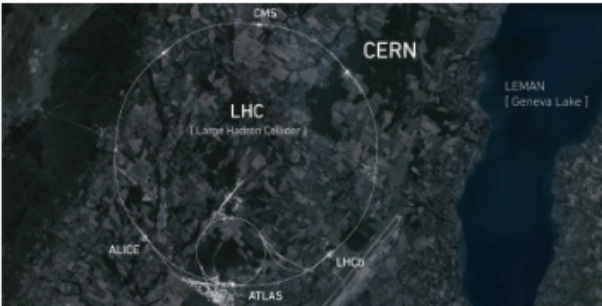
CERN60 RESOURCES

CERN EXHIBITION CONTENTS

- Overview
- Physics
- LHC Accelerators
- Experiments
- Computing
- Knowledge Transfer
- History

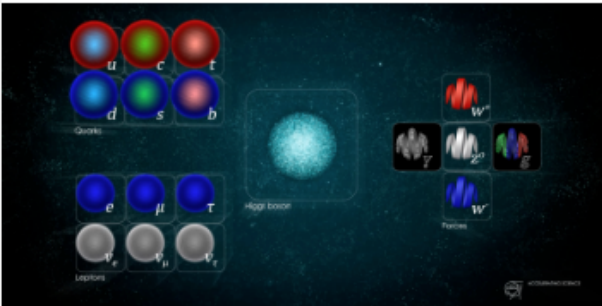
CERN exhibitions content

Overview



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Physics



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Resource 4



International Particle Physics Outreach Group

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- [Multi-Media Contest](#)

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Resource 5

ATLAS EXPERIMENT

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ATLAS Briefings

ATLAS $\sqrt{s} = 7$ TeV $\int L dt = 20.3 \text{ fb}^{-1}$

ATLAS $\sqrt{s} = 8$ TeV $\int L dt = 20.3 \text{ fb}^{-1}$

Searches for new physics with photons produced at vertices displaced from the collision point

Theories, such as Supersymmetry, propose the existence of new types of particles to explain important questions about the universe, such as the nature of dark matter. ATLAS has performed a search [More...](#)

ATLAS News

ATLAS Physicist Wins Young Scientist Prize

For her contribution toward the discovery of the Higgs boson, Kerstin Tackmann was awarded the Young Scientist Prize in Particle Physics 2014 by the International Union of Pure and Applied Physics. [Learn more here...](#)

ATLAS Run Status

TOTAL LUMINOSITIES

27.03 fb^{-1}	PROTON - PROTON
29.85 nb^{-1}	PROTON - LEAD
167.4 μb^{-1}	LEAD - LEAD

LHC shut down for upgrades. Restart April 2015 [More info, can be found here.](#)

ATLAS Science & Art

ATLAS and the Higgs

Finding the Higgs Boson is changing our understanding of the world. [Learn more.](#)

Discovery Quest ATLAS eTours Art in ATLAS

About ATLAS

Mapping the Secrets of the Universe

ATLAS is a particle physics experiment at the Large Hadron Collider at CERN that is searching for new discoveries in the head-on collisions of protons of extraordinarily high energy. ATLAS will learn about the basic forces that have shaped our Universe since the beginning of time and that will determine its fate. Among the possible unknowns are extra dimensions of space, unification of fundamental forces, and evidence for dark matter candidates in the Universe. Following the discovery of the Higgs boson, further data will allow in-depth investigation of the boson's properties and thereby of the origin of mass.

Higgs Multimedia Material

Images Videos

"The ATLAS Story". This film produced in July 2012 explains how fundamental research connects to society and what benefits working collaboratively may be generated in the future using ATLAS Collaboration as a case study. [More...](#)

The ATLAS Story

Impacts of its Science,

Compact Muon Solenoid
experiment at CERN's LHC

Search

PUBLIC WEBSITE **COLLABORATION WEBSITE**

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CERN CMS Experiment

Observation of a New Particle with a Mass of 125 GeV

CMS Experiment, CERN
4 July 2012

Introducing CMS

- Englert and Higgs get the Nobel
- Observation of a New Particle with a Mass of 125 GeV
- Physics Results
- CMS Detector
- About CMS

General News

CHIPP Prize 2014 to Marco Peruzzi
2014-07-30, by Paris Sphicas

Physics News

Recent results in the search for supersymmetry
2014-07-24, by Paris Sphicas

CMS closes major chapter of Higgs measurements
2014-07-03, by Tiziano Camporesi

Physics Results

Physics Results

Photographs

Images of collisions

Resource 6



A man with glasses and a red jacket over his shoulders stands on a stage. The background is a grey wall with multiple 'FameLab' logos, some of which include 'Spain'. The man is wearing a white t-shirt with the text 'LA FÍSICA UN BO' visible. The video player interface at the bottom shows a progress bar at 3:07 / 3:53, a 'CC' icon, a settings gear, a full screen icon, and a share icon.

Monólogo de Javier Santaolalla- Famelab España

FUNDACION ESPAÑOLA PARA LA CIENCIA Y TECN...

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5,796

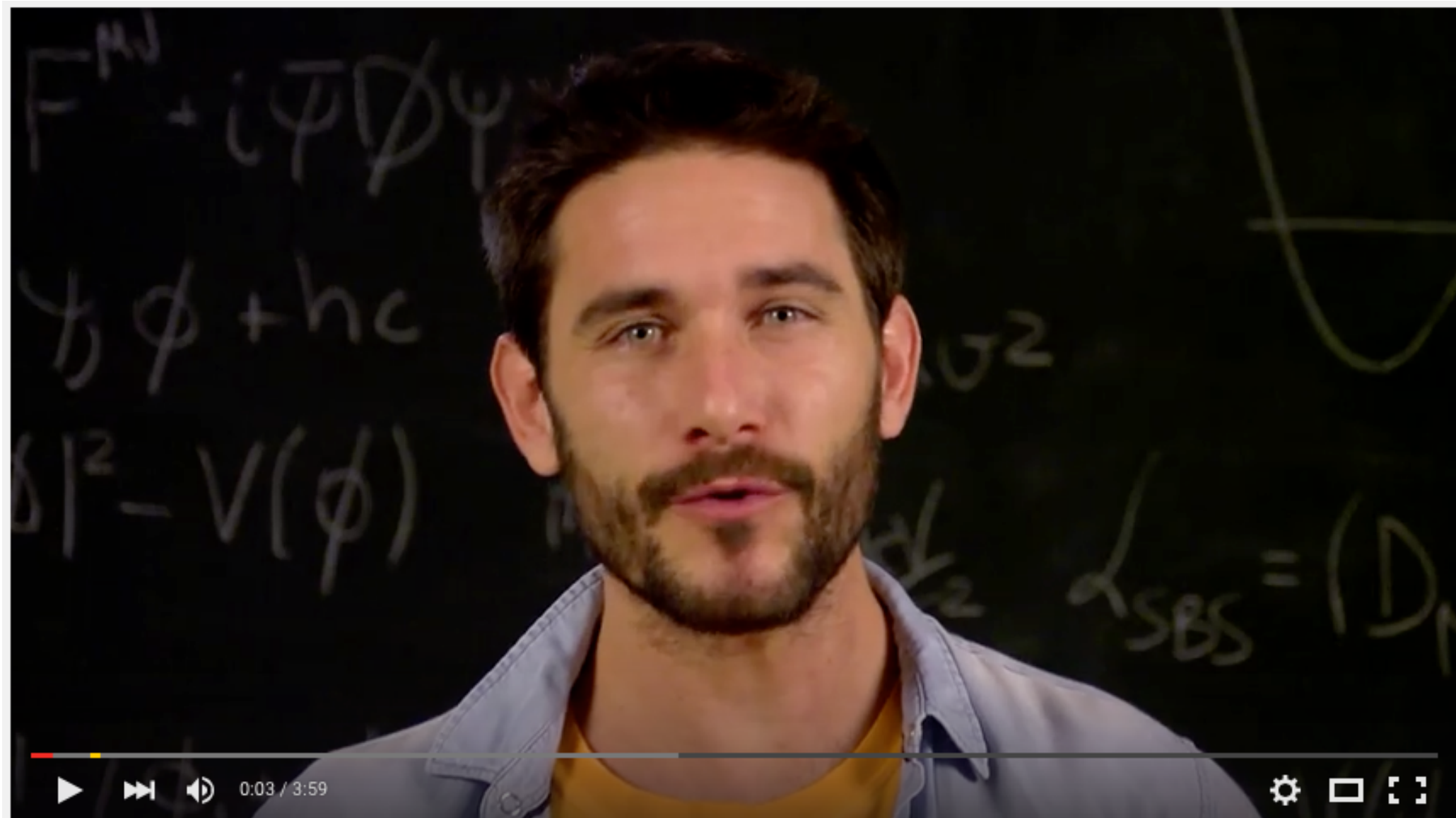
+ Add to  Share ... More

 23  2

Resource 7



Resource 8



¿Qué es un colisionador de partículas?



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8,278


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Resource 9



International Particle
Physics Outreach Group



INTERNATIONAL
MASTERCLASSES
hands on particle physics

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International Masterclasses
11th International Masterclasses 2015

Each year about 10.000 high school students in [42 countries](#) come to one of about 200 nearby universities or research centres for one day in order to unravel the mysteries of particle physics. Lectures from active scientists give insight in topics and methods of basic research at the fundamentals of matter and forces, enabling the students to perform measurements on real data from particle physics experiments themselves. At the end of each day, like in an international research collaboration, the participants join in a video conference for discussion and combination of their results. See [here](#) for media coverage.

International Masterclasses 2015 will take place from 25.2. - 2.4.2015, including **U.S. Masterclasses**.

Discover the world of Quarks and Leptons with real data

Resource 10

LATINAMERICANS SCIENCE dotORG



By  Aleszu Bajak

Posted in [Article](#), [Latin America](#)

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Accelerating Science in Latin America

How to make particle physics interesting to Latin Americans: CERN as a benchmark for global science diplomacy

by:
Marga
Gual
Soler,
PhD



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LatinAmericanScience.org

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Any questions?



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