



LHCb

ATLAS

CERN Meyrin

CERN Prévessin

SPS 7 km

PS 6.28 km

SUISSE
FRANCE

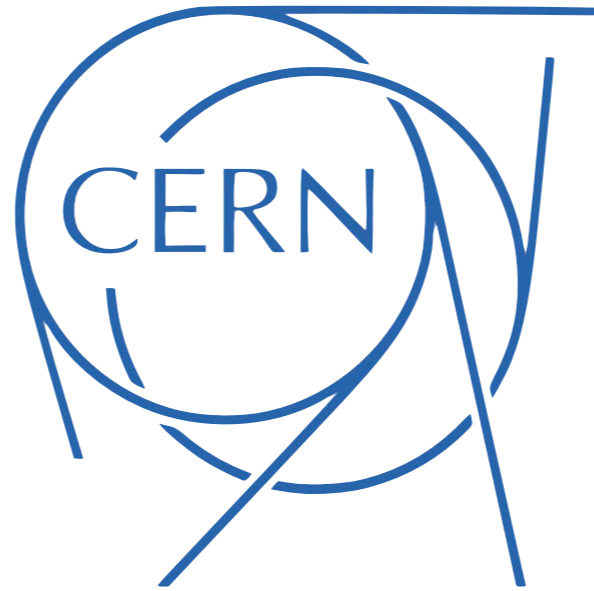
CMS

ALICE

WG2: Bubble Chamber Activity

Konrad Jende, High School Teacher Programme 2014

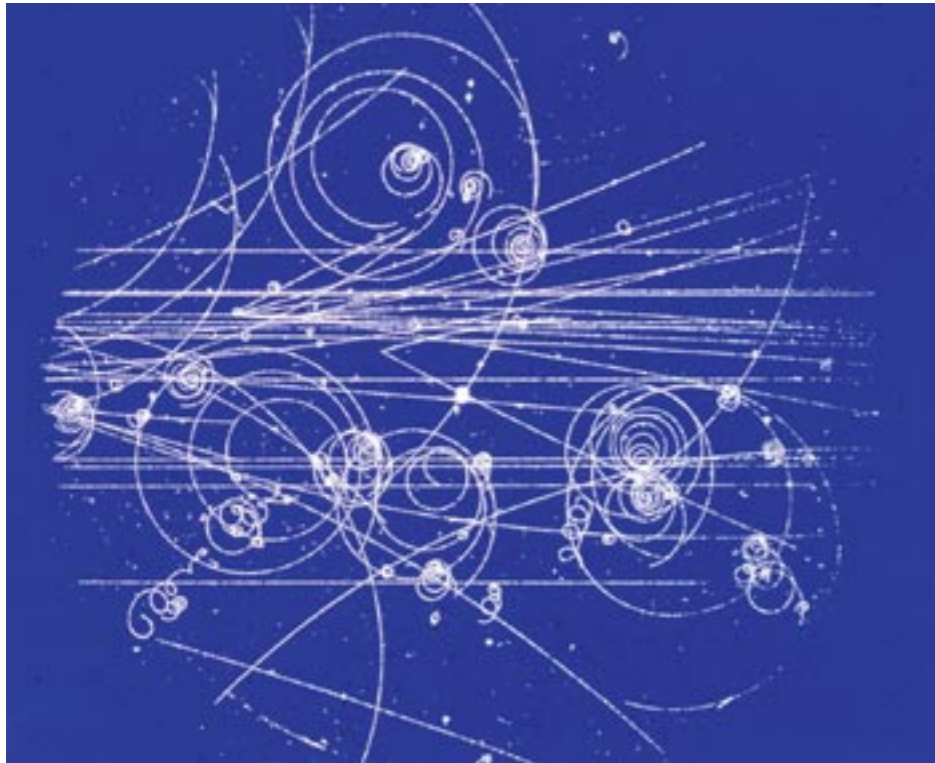
LHC 27 km



WG2: Bubble Chamber Activity

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Bubble Chamber Activities



Introduction to the BC site
Tutorial on how to read BC Pictures
Gallery of BC Pictures
BC Teaching Materials
glossary | FAQ | documents | links | credits | sitemap

Introduction to the **BC** site

Bubble chamber photographs provide an insightful introduction to the exotic short-lived particles that emerge from all high energy accelerator experiments. When they study proton-proton collisions at the LHC, most of the particles that the physicists will pick up in their modern electronic detectors will be ones first identified in bubble chambers and their precursors, cloud chambers and photographic emulsions.

Since they show actual trails of bubbles that are formed as charged particles force their way through an unstable liquid, bubble chamber pictures are perceived by non-particle physicists as real, and therefore a good way to introduce particle physics. The pictures themselves are quite often easy to understand in an intuitive, qualitative way.

The pictures, moreover, possess a mysterious, cosmic beauty that is particularly appealing to the non-scientist.

Stimulated by the work of participants at the CERN High School Teachers' Summer School over the last few years, this is a limited mini version of a Website aimed at teachers world-wide. Eventually it is hoped that it will be extended and will appear in many languages.

- [What is particle physics ?](#)
- [How does a bubble chamber work?](#)
- [How does one 'read' bubble chamber pictures? A step-by-step tutorial.](#)
- [A 'Would you like to see a ... ?' gallery of pictures with descriptions.](#) showing examples of many of the particles that come out of particle collisions. Some of these are very simple and illustrate ordinary concepts such as momentum conservation and charge conservation in an esoteric setting.
- [A glossary of terms used.](#)
- [Frequently asked questions](#)

Bubble Chamber Activities

- bubble chamber website
- photo negatives
- photographic reproductions
- computer programme on analysis of bubble chamber pictures
- ...

Specific Task for the group

Task:

Develop a 90 minutes workshop about data analysis from bubble chamber experiments suited for high school teachers (and high school students).

Working group leaders, 1st meeting

- Konrad Jende: konrad.jende@cern.ch
- Gron Tudor Jones

- 1st meeting will be scheduled soon

Merci



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