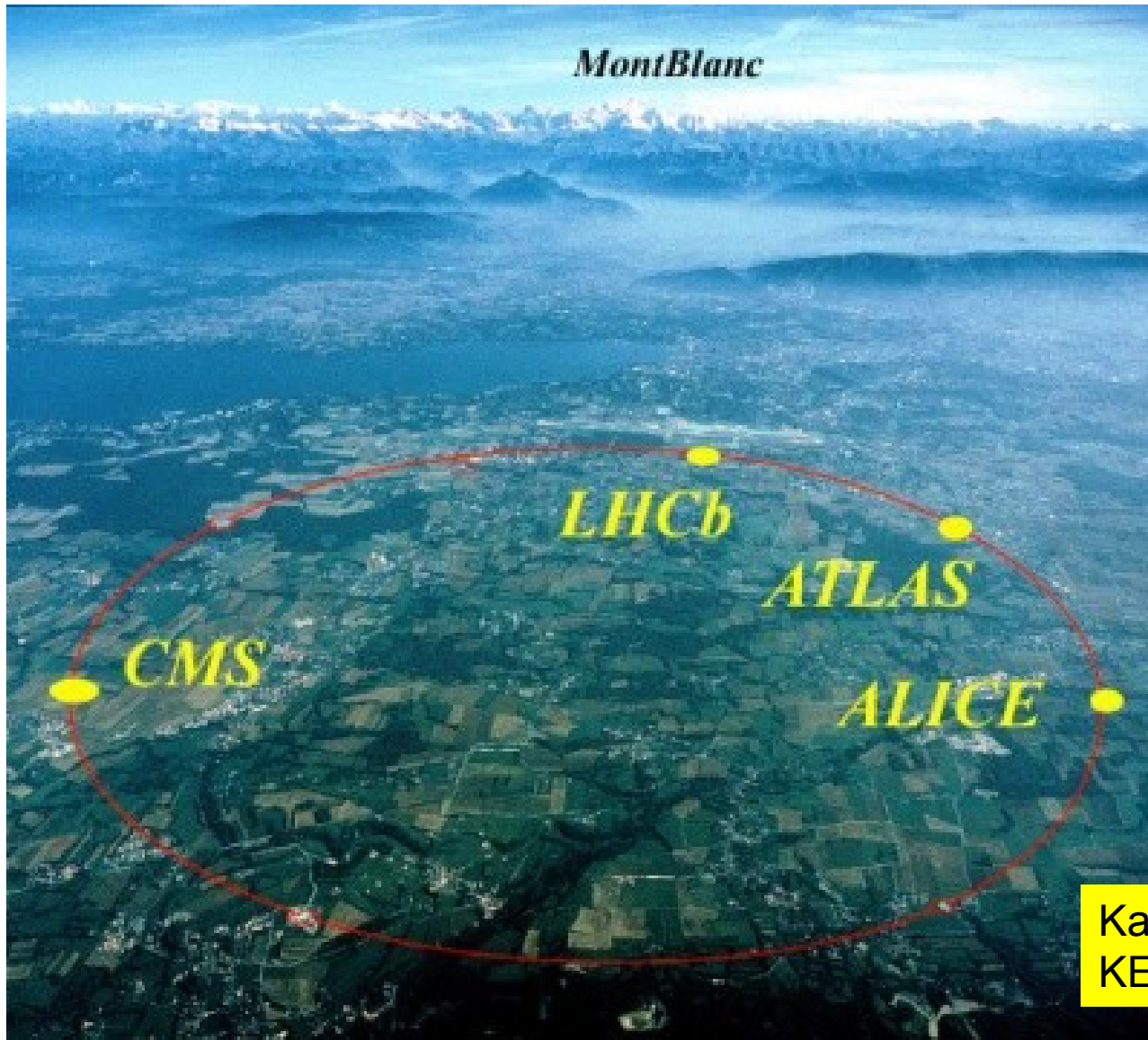


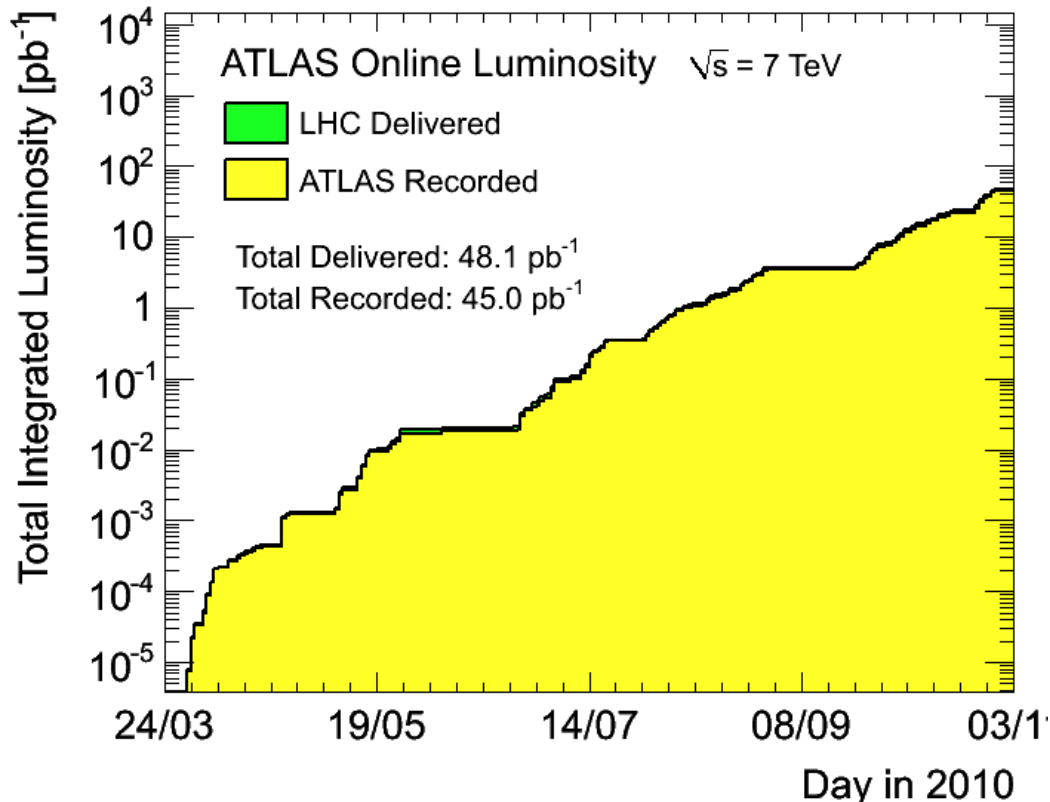
# ATLAS activity



# Very successful 7TeV( $E_{cm}$ ) runs in 2010

Exponential increase in Luminosity!

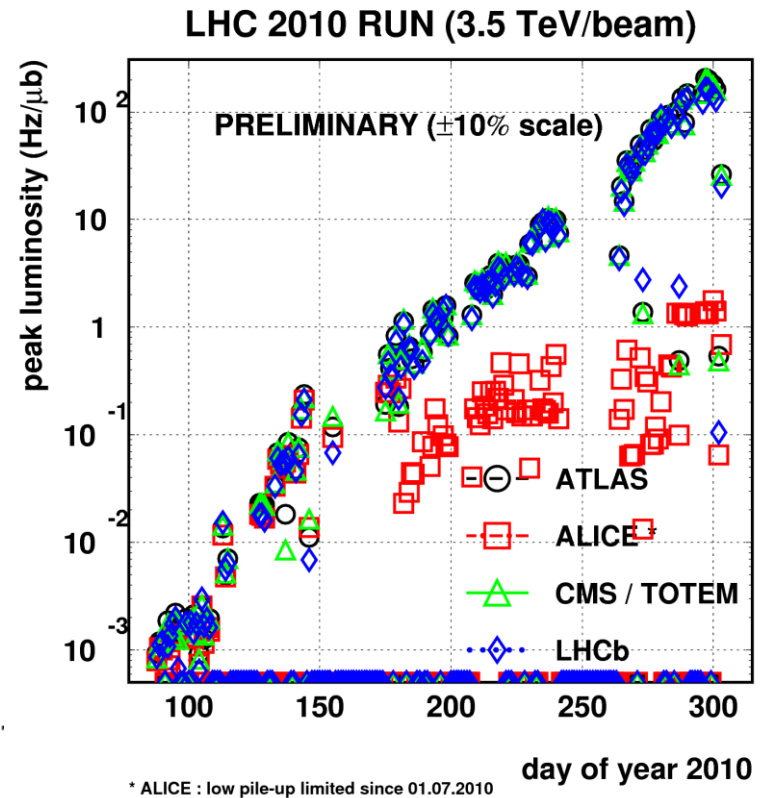
## Integrated Luminosity



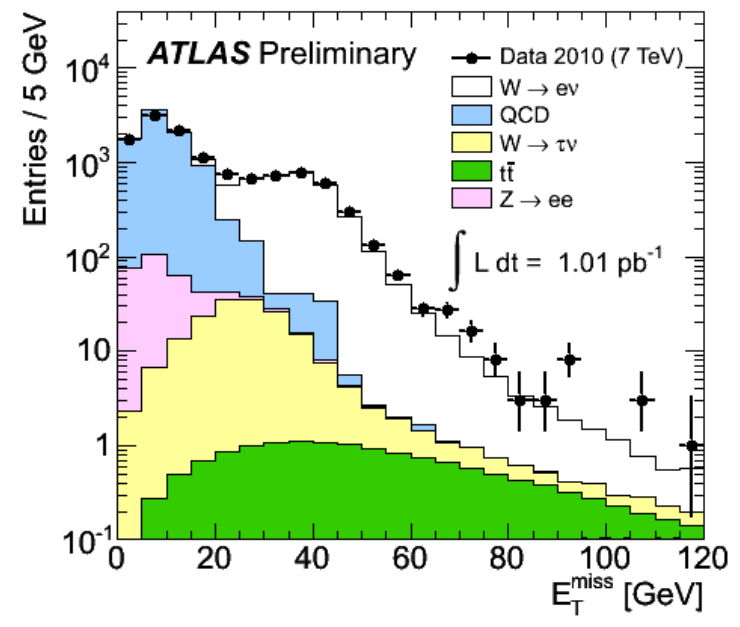
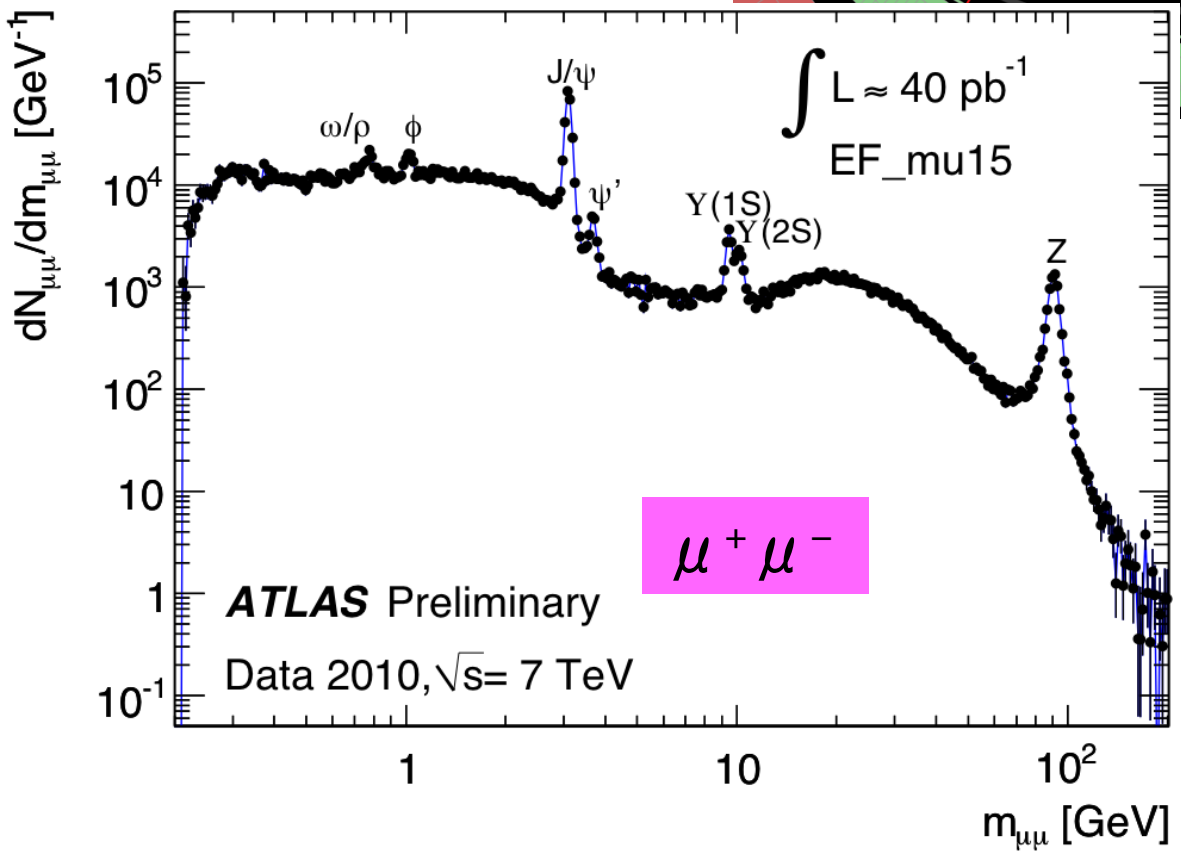
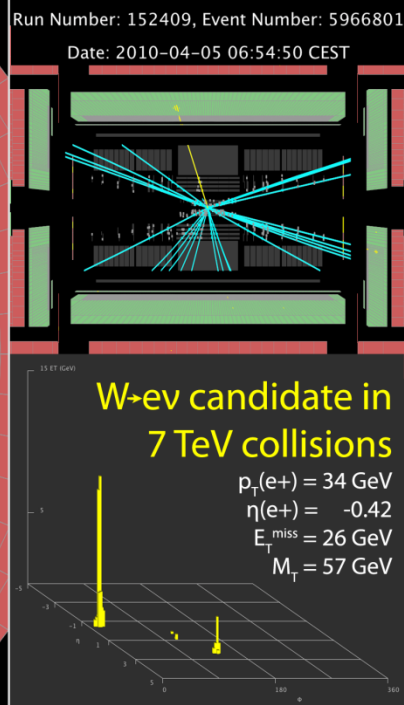
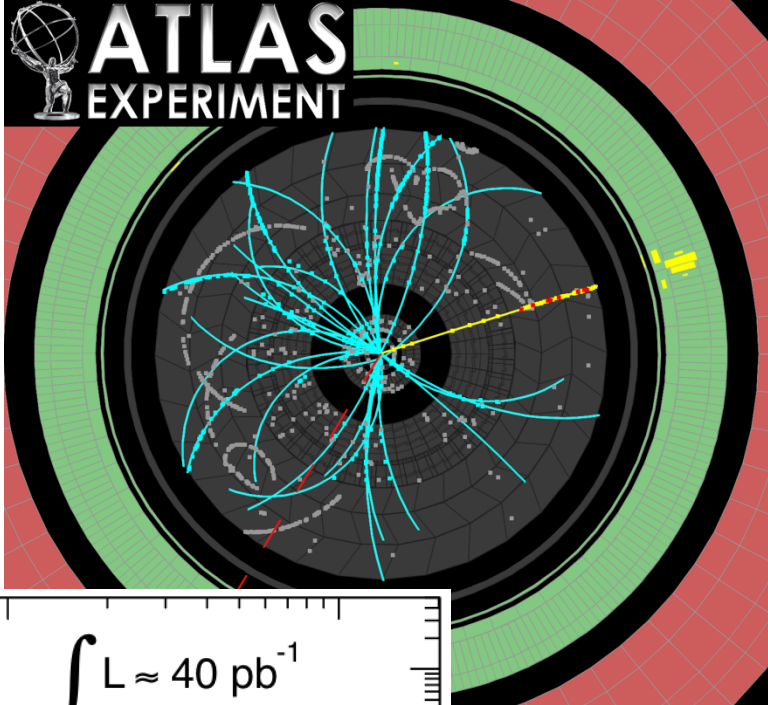
On 30 March: First collision at 7TeV  
in Nov, peak luminosity =  $2 \times 10^{32}$  cm<sup>-2</sup> s<sup>-1</sup>

## Peak Luminosity

05 08.35



Almost all known particles were re-discovered!





# ATLAS detector upgrade plan

2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
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toward design luminosity  
14TeV  $-1 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$

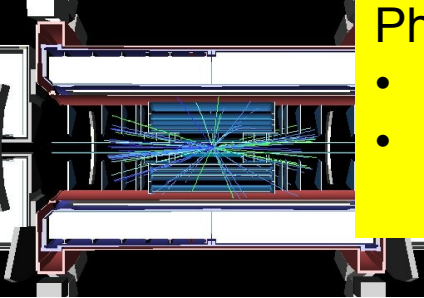
ultimate design luminosity  
 $1-2 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$

High-Luminosity LHC  
 $5 \times 10^{34} \text{ cm}^{-2}\text{s}^{-1}$

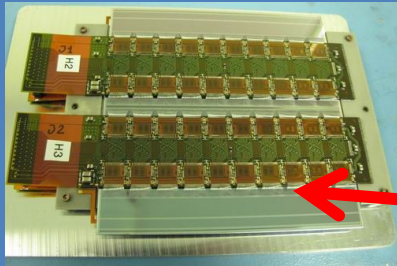
Phase 1 minor upgrade:

- An additional pixel layer (IBL)
- Replacement of Inner Endcap muon chambers

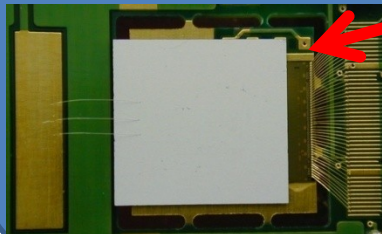
KEK has joined the IBL project.



## R&D activities in Japan

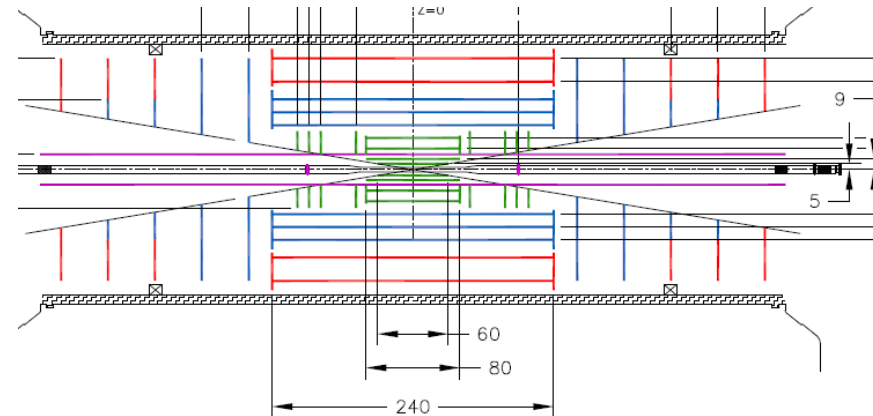


- R&D of radiation-tolerant sensors
- Development of short strip detector module



- R&D of pixel sensors
- development of muon and combined triggers.

Phase 2: Major upgrade:  
Complete replacement  
of the inner trackers  
(All-silicon tracker)





# Preparation for LHC Upgrade

## ATLAS

- Contribution to the IBL
- KEK stood for hosting the ATLAS upgrade week in 2011 (but was defeated by Oxford).

## HL-LHC

- A special symposium was organized at the JPS meeting in September on the future energy frontier accelerators (i.e. LHC upgrade and ILC).
  - K. Tokushuku reported on HL- and HE-LHC
  - A. Yamamoto reported on the accelerator R&D for ILC and LHC
  - T. Kawamoto reported on ATLAS upgrade
- Report to High energy committee.

*We are requesting for the R&D money for the upgrade.  
We need to agree on the governance model before we  
request the construction money*