



Status of CMS Full Simulation

Mike Hildreth

Université de Notre Dame du Lac

Vladimir Ivantchenko

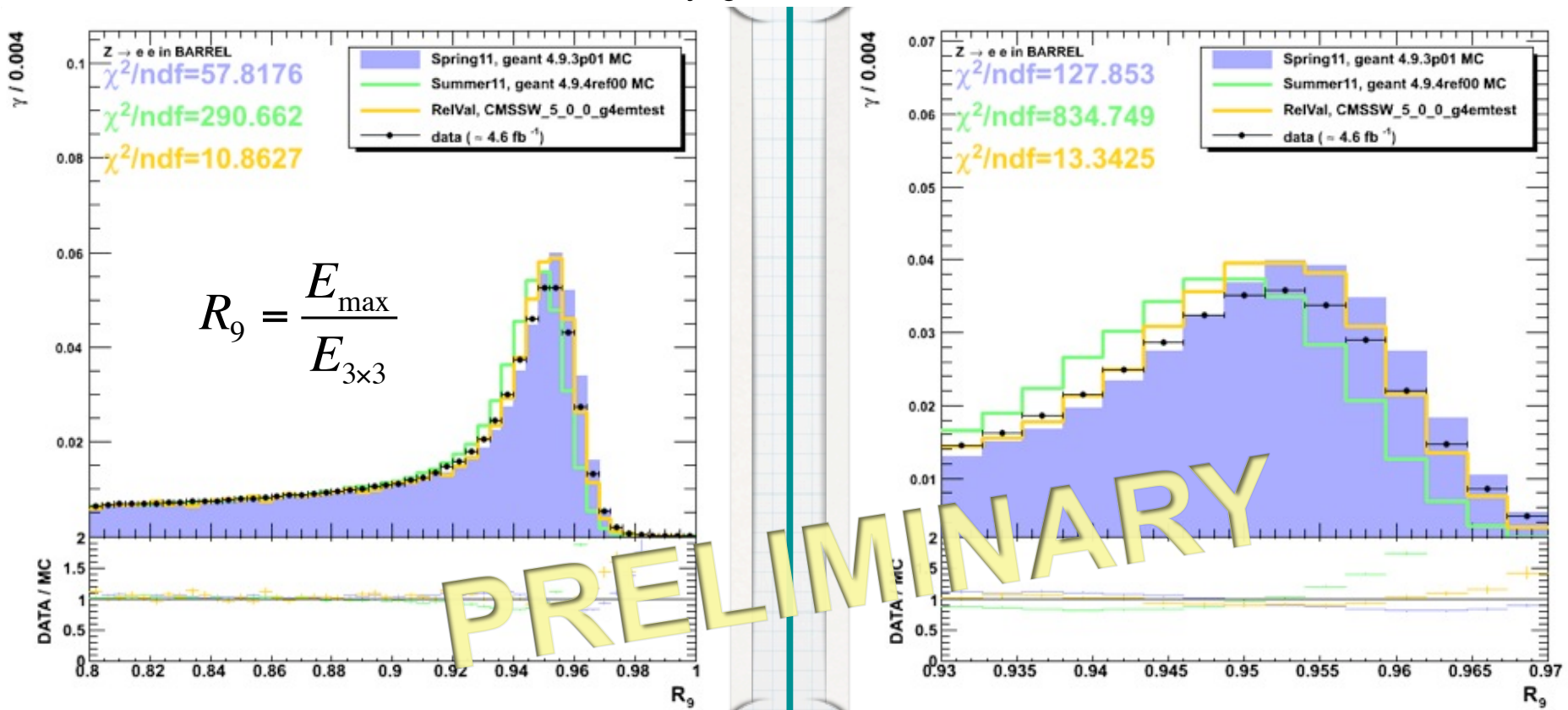
CERN

- 2011:
 - 7 TeV Monte Carlo production: $2.7 \cdot 10^9$ events
 - Based on Geant4 9.4 (+ few fixes)
 - Slc5_amd64_gcc434 compiler
- 2012 :
 - 7 TeV Monte Carlo production $0.24 \cdot 10^9$ events
 - Geant4 9.4p03
 - Slc5_amd64_gcc434
 - 8 TeV Monte Carlo production
 - $3.5 \cdot 10^9$ events requested
 - Started with Geant4 9.4p03 + slc5_amd64_gcc434
 - Continues with slc5_amd64_gcc462 and CHIPS stopping fix
 - Main concern – EM shower shape in ECAL

Shower Shape in ECAL for $Z \rightarrow e^+e^-$



O. Bondu, H. Brun, L. Sgandurra, S. Gascon-Shotkin, M. Lethuillier, IPN Lyon
 J. Tao, H. Xiao, G. Chen, J. Fan, IHEP Beijing



- 9.4p03 shape (teal) matches much less well compared to 9.3p01
- Addition of Seltzer-Berger bremsstrahlung model from 9.5 (orange) improves the agreement with data for the barrel calorimeter
- There are still some problems in the endcap

- 8 TeV Monte Carlo re-production
 - May be applied for selected workflows
 - slc5_amd64_gcc462
 - Geant4 9.4p03 + extra things from 9.5
 - Seltzer-Berger bremsstrahlung model
 - Fixed UrbanMsc models (electron scattering bug)
 - CHIPS kaon, anti_proton , hyperon x-sections
- Validation of Geant4 9.5p01
- Close following of Geant4 9.6 developments