

# Nicola Orlando - Six-month activity report 01/06/ 2013-31/12/2013

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## Activity in ATLAS

### **Z+B CROSS SECTION MEASUREMENTS**

The main activity is related to the finalization of the measurement of the cross section for b-jets production in association with a Z boson. The inclusion of the full treatment of the experimental systematics has been finalized and the cross section has been measured at particle level using a method based on the Bayes theorem. The evaluation of the multijet background has been optimized in order to reduce the related uncertainties to a negligible level.

### **MUON COMBINED PERFORMANCE**

The derivation of the muon momentum resolution corrections to Monte Carlo simulations has been extended at low transverse momentum including a calibration based on the use of  $J/\psi$  resonances and has been validated using various techniques.

### **RESPONSIBILITIES**

Nominated contact of the Standard Model working group as b-tagging expert in the "Harmonization effort task force" coordinated by the ATLAS Physics Coordination.

## Relevant talks

Zb(b) Cross sections at 7 TeV Approval for a paper, Standard Model Plenary Meeting, 21-11-2013.

Invited Talk QCD Results from ATLAS and CMS, LC13: Exploring QCD from the infrared regime to heavy flavour scales at B-factories, the LHC and a Linear Collider, Trento (Italy), 16-20 September, 2013.