

LHC Higgs Combination Group : Overview

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Introduction

- LHC-HCG initiated by ATLAS + CMS SP & PC
 - Met with ATLAS+CMS Higgs convenors on Nov 8th
- **Mandate**
 - Define the strategy for statistical combination of Higgs results from LHC experiments
 - **for EPS & Lepton-Photon conferences and beyond**
 - Prepare the inputs needed for the combination
 - Produce and help disseminate the combined results for SM Higgs
 - Consult with the Statistics committees of ATLAS and CMS regarding the statistical tools and procedures employed.
 - Consult with the Higgs cross section working group for input on various cross section and branching ratios.
- Several follow up meetings of ATLAS & CMS Higgs coordinators
 - Developed draft memo of understanding & timeline of work

Initial Composition

Role	ATLAS	CMS
Convenor	Bill Murray	Vivek Sharma
Overall Contact	Ketevi Assamagan	Andrey Korytov
Statistics Comm. rep	Eilam Gross	Gregory Schott
Higgs Cross Section rep	Reisaburo Tanaka	Chiara Mariotti

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ATLAS & CMS Spokespeople + Physics Coordinators

With participation of experts as and when needed

Draft Timeline

Date	Goal
Dec 6	Kick-off open meeting (OM) to discuss combination strategy
Jan 13	Working meeting (WM) to compare Roostats & other commonly used tools
Jan 27	WM, formulate strategy for combining including mass scan, coherent treatment of systematic errors & data format for sharing
Feb 10	OM to release plan of work
Feb 24	WM to finalize $H \rightarrow WW$ combination on MC data; start documentation
Mar 10	WM to combine $WW, ZZ, \gamma\gamma$ on MC data
Mar 24	OM to report on combination exercise on $H \rightarrow WW, ZZ, \gamma\gamma$
May 19	WM to share summer analysis strategy, analysis definition. Prepare for combinations with data, start documentation on combined results
June30	WM to share prelim results with data, start combination process; exact process of sharing to be determined by SP & PC
July 14	WM on Combined results for EPS, review documentation
July 15	Start approval process within ATLAS & CMS; exact procedure to be determined by SP & PC
July 21	EPS starts in Grenoble ; option to update for LP'11