

Implications of LHC results for TeV-scale Physics

Working Group 3: Exotics
CERN, Dec 8-9, 2011

Quick reminder

- Series of meetings devoted to evaluating the implications of recent results from the LHC, and elsewhere, for TeV-scale physics, and to discuss the impact of these results on the future strategy for particle physics.
- The results will be summarised in a document, to be submitted as input to the planned 2012 update of the European Strategy for Particle Physics.
- The workshop activities will be focused around three working groups investigating different aspects of TeV-scale physics, namely
 - Signals of electroweak symmetry breaking (conveners: S.Heinemyer, M.Kado, C.Mariotti, G.Weiglein, A.Weiler)
 - Signatures with missing energy (conveners: R.Cavenaugh, J.Hewett, S.Kraml, G.Polesello)
 - Other signatures of possible BSM physics (conveners: C.Grojean, G. Isidori, D.Martinez, J.Santiago Perez, P.Savard, S.Worm)
- The task of the working groups is to assess the possible interpretations of the experimental results in view of their implications for the future strategy of particle physics.

The Goal of This Meeting

- Get Organized!
- Discuss and fix the main structure of the document
 - Sections, content, coordinators, page count
- Coordinate the theory/experiment interplay
 - Final document written “by theorists” (interpretation of experimental results and their implications)
 - Experimental input crucial
 - 1 or 2 theory coordinators (+ 1 interested experimentalist?)

The Document

- A preliminary draft has been circulated
- 6 topic sections:
 - Boosted objects: G. Perez, G. Salam
 - New Vectors: M. Perez-Victoria
 - New Fermions: J.A. Aguilar-Saavedra, G. Servant
 - Long Lived Particles: P. Maede
 - Other Exotic Signatures: K. Zurek
 - Flavor: G. Isidori
- Total document should be ~ 20 pages long (3-4 pages per section)

This Meeting

- The program follows the current sectioning of the document
- Experimental talks followed by theory talks, mainly by the coordinators, to trigger discussion
- Ideally we will have on Friday a clear idea of what should go in the document and who will be working on writing the different sections
- Some topics still need to be decided: e.g. top, separate section or specific implications discussed in each section?

This Meeting

Thursday Dec 8

	Welcome and motivation	<i>SANTIAGO, Jose</i>
	<i>TH Theory Conference Room, CERN</i>	14:30 - 14:50
15:00	Heavy new physics and boosted techniques: ATLAS	<i>GARBERSON, Ford</i>
	<i>TH Theory Conference Room, CERN</i>	14:50 - 15:10
	Heavy new physics and boosted techniques: CMS	<i>VASQUEZ SIERRA, Ricardo</i>
	<i>TH Theory Conference Room, CERN</i>	15:10 - 15:30
	Coffee break	
	<i>TH Theory Conference Room, CERN</i>	15:30 - 16:00
16:00	Long lived particles: CMS	<i>SIGAMANI, Michael</i>
	<i>TH Theory Conference Room, CERN</i>	16:00 - 16:20
	Long lived particles: ATLAS	<i>VENTURA, Daniel</i>
	<i>TH Theory Conference Room, CERN</i>	16:20 - 16:40
	Long lived particles: theory + discussion	<i>MEADE, Patrick</i>
	<i>TH Theory Conference Room, CERN</i>	16:40 - 17:00
17:00	Other signatures: CMS	<i>ORIMOTO, Toyoko</i>
	<i>TH Theory Conference Room, CERN</i>	17:00 - 17:20
	Other signatures: ATLAS	<i>VAROL, Tulin</i>
	<i>TH Theory Conference Room, CERN</i>	17:20 - 17:40
	Other signatures: theory + discussion	<i>ZUREK, Kathryn</i>
	<i>TH Theory Conference Room, CERN</i>	17:40 - 18:00
18:00		

This Meeting

Friday Dec 9

09:00	Flavour: LHCb general <i>TH Theory Conference Room, CERN</i>	<i>AMHIS, Yasmine Sara</i> 09:00 - 09:30
	Flavour: LHCb CP in D <i>TH Theory Conference Room, CERN</i>	<i>GERSABECK, Marco</i> 09:30 - 09:50
10:00	Flavour: Theoretical aspects of CPV in the charm system <i>TH Theory Conference Room, CERN</i>	<i>GUADAGNOLI, Diego</i> 09:50 - 10:10
	Flavour: Rare decays and other future prospects in flavor physics <i>TH Theory Conference Room, CERN</i>	<i>MAHMOUDI, Nazila</i> 10:10 - 10:30
	Coffee break <i>TH Theory Conference Room, CERN</i>	10:30 - 11:00
11:00	New fermions: ATLAS <i>TH Theory Conference Room, CERN</i>	<i>MARTIN, Bertrand</i> 11:00 - 11:20
	New vectors: ATLAS <i>TH Theory Conference Room, CERN</i>	<i>DELUCA SILBERBERG, Carolina</i> 11:20 - 11:40
	New fermions and new vectors: CMS <i>TH Theory Conference Room, CERN</i>	<i>FELCINI, Marta</i> 11:40 - 12:00
12:00		

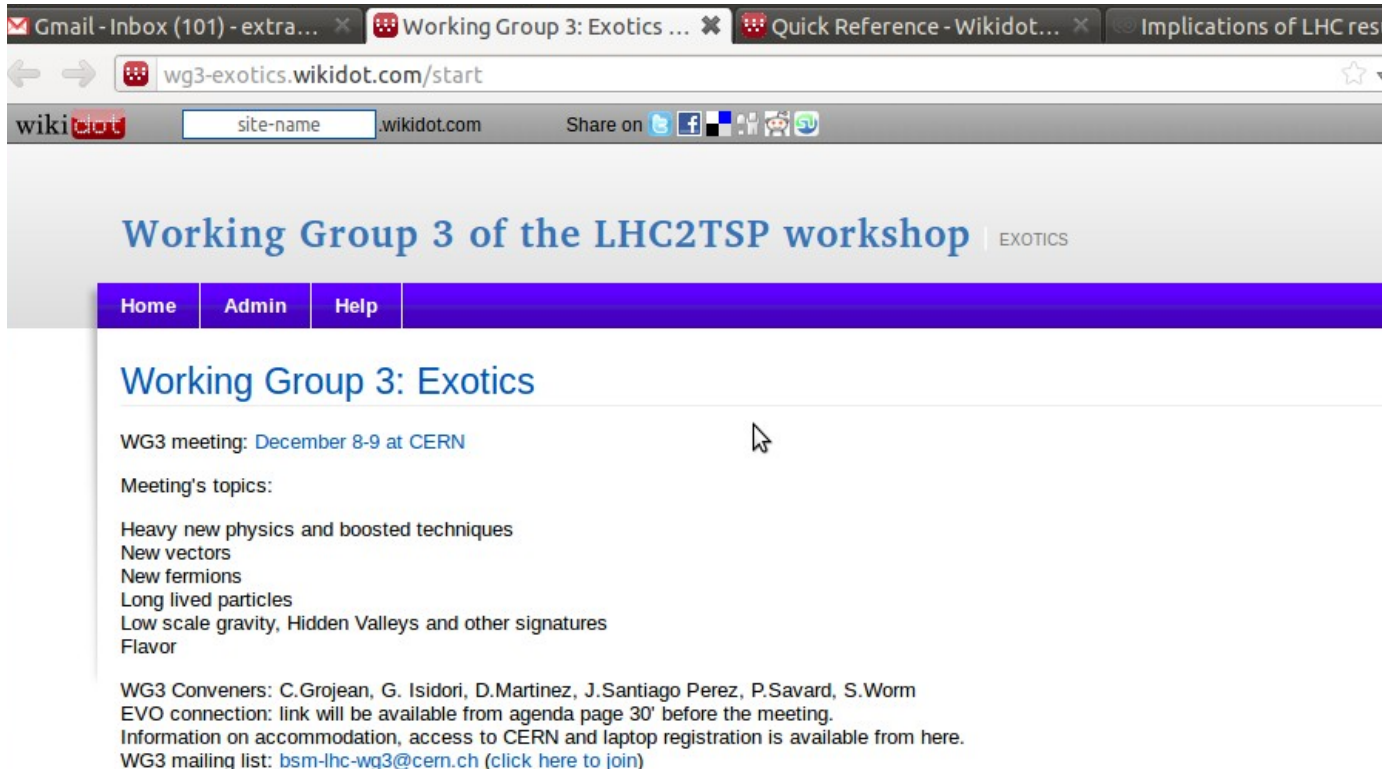
This Meeting

Friday Dec 9

14:00	New fermions: theory + discussion <i>TH Theory Conference Room, CERN</i>	<i>SERVANT, Geraldine</i> 14:00 - 14:20
	New vectors: theory + discussion <i>TH Theory Conference Room, CERN</i>	<i>PEREZ-VICTORIA, Manuel</i> 14:20 - 14:40
15:00	Discussion: structure of the document, sections and people <i>TH Theory Conference Room, CERN</i>	14:40 - 15:30
	Coffee <i>TH Theory Conference Room, CERN</i>	15:30 - 16:00
16:00		

Other tools

- We have created a wiki page:
<http://wg3-exotics.wikidot.com/start>
- Feel free to sign up and contribute



The screenshot shows a web browser window with several tabs open: "Gmail - Inbox (101) - extra...", "Working Group 3: Exotics ...", "Quick Reference - Wikidot...", and "Implications of LHC resu". The address bar shows the URL "wg3-exotics.wikidot.com/start". The page header includes the Wikidot logo, a search bar, and social media sharing icons. The main content area features a blue navigation bar with "Home", "Admin", and "Help" links. Below this, the page title is "Working Group 3: Exotics". The main text includes a meeting announcement for December 8-9 at CERN, a list of meeting topics, and contact information for the conveners.

Working Group 3 of the LHC2TSP workshop | EXOTICS

Home Admin Help

Working Group 3: Exotics

WG3 meeting: [December 8-9 at CERN](#)

Meeting's topics:

- Heavy new physics and boosted techniques
- New vectors
- New fermions
- Long lived particles
- Low scale gravity, Hidden Valleys and other signatures
- Flavor

WG3 Conveners: C.Grojean, G. Isidori, D.Martinez, J.Santiago Perez, P.Savard, S.Worm
EVO connection: link will be available from agenda page 30' before the meeting.
Information on accommodation, access to CERN and laptop registration is available from [here](#).
WG3 mailing list: bsm-lhc-wg3@cern.ch ([click here to join](#))

Summary

- We have a very important task in our hands

The results will be summarised in a document, to be submitted as input to the planned 2012 update of the European Strategy for Particle Physics.

- We should foresee all possible scenarios (implications of NP being found or not by 2012)
- We (conveners) are here to help
 - C. Grojean, G. Isidori, D. Martinez-Campos, J. Santiago, P. Savard, S. Worm

Summary

- The dates for the next meeting have been already fixed (all working groups together)
 - March 25-30, 2012.
- Thanks for coming and let's get to work!