

HWW discussion

M. Biglietti, P. Govoni

differenze fra CMS ed ATLAS

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- for **ggH, H > WW > lvlv**

- leptons p_T : (20, 10) GeV in CMS, (25, 15) GeV in ATLAS

	cut-based		final analysis		
expected		2.7		3.7	5.1
observed		2.0	3.0	3.8	4.0
	ATLAS	CMS	ATLAS no VBF	ATLAS	CMS

- other analyses:

channel	ATLAS	CMS
VBF lvlv	7 + 8 TeV	finalising
VH > lvlvjj	being done	finalising
WH > 3l	finalising	7 + 8 TeV
ZH > 4l	finalising	
H > WW > lvjj	7 TeV	7 + 8 TeV
VBF lvjj	7 TeV	-

trigger dopo lo shut down

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● fully leptonic

- the di-electron channel loses a lot without any upgrades of the trigger system

Final State	No Upgrade	Stage 1	Best
$\mu\mu$	1.0		1.0
ee	0.67		0.94
$e\mu$	1.0		1.0
μe	0.90		0.93

CMS: ratio of signal acceptance of different envisaged scenarios with respect to the acceptance for the current selection.

● semi leptonic

- in the high mass regime (above 600 GeV) single lepton triggers or single lepton + jet triggers will probably be enough
- in the low mass regime, cross-triggers will be necessary (ATLAS planning topological selection @ L1 level)
- will be probably **OK at high mass**
- for low p_T leptons, might **lose efficiency for the di-electrons case**

oltre il modello standard

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- WW is the most probable final state for a **SM-like decay at high m_{ww}** (above 600 GeV)
- know **what to search for**
 - VV scattering in a model-independent way
 - additional resonances: use a model agreed among experiments and theory
- refine the **tools**
 - adequate leptons and jets reconstruction in the high energy regime (merged jets)
 - MET tails will have to be studied in detail with higher PU and upgraded detectors