

Exotica meeting summary

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Scaling to 7 TeV

- Main subject of the meeting
- MC validation effort from EXOTICA group requested (Most on background/SM samples)
- Twiki for Exotica Objects are being set up (Interested people should sign up)

Scaling issues

1- XSections scaling:

Signal dependence with mass

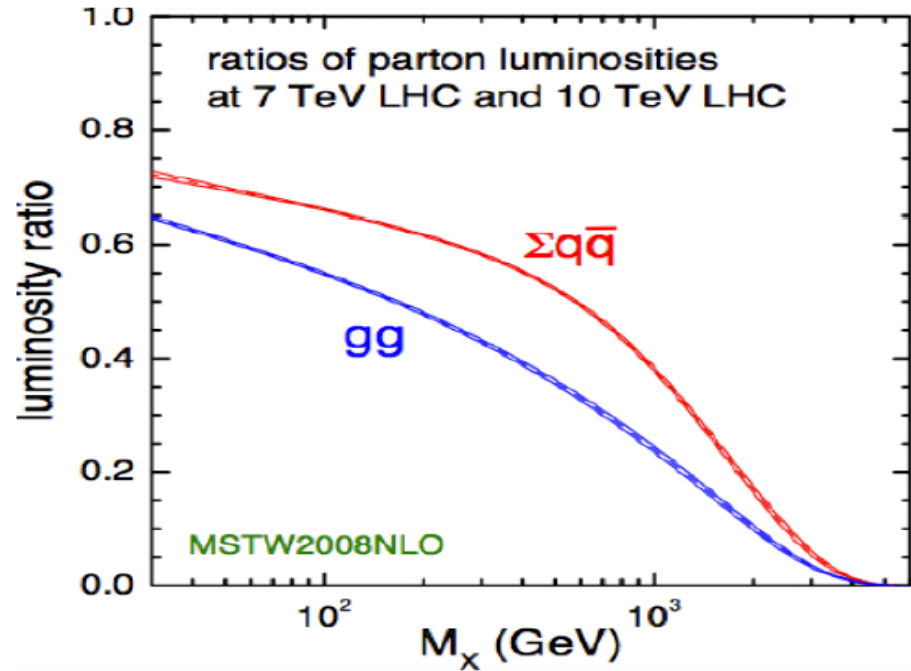
Background reduction

Scaling factors 0.25-0.70

2- Luminosity dependence

Calculations from 10TeV
simulations to 7TeV

3- Discovery power estimates



Agenda

- Scaling Approval Session
- $b' \rightarrow tW$ (NTU): Exclusion curve reduced by a factor of 1/3
- $b' \rightarrow bZ$ (NTU): factor <1/3
- Scaling of the Large ED Results in Diphotons (Brown): changed acceptance cuts/Slight reduction on 95% CL (luminosity need: 5 x higher)
- Scaling of the RS Graviton (CERN): Background scaling $\sim 1/3$ for the CL limits. Similar results as for ED results
- Scaling of the Unparticle (METU):
- Scaling of Boosted Top Results in u +jets (Inst. fuer Experimentelle Kernphys.-Universitaet Karlsruhe): Both background and signal cross sections reduce such that exclusion limits remained almost the same.
- Scaling of Boosted Top Results in the All-Jet (Johns Hopkins): Updated files requested. Selection efficiency dropped. Not understood.
- Scaling of Large ED Results in Monojets (Universiteit Antwerpen): S/B reduced by a factor of 2 (3 x lumi for 10 TeV results)
- Technicolor Results Scaling (Boston University): factor of about 4/3 to 2 in order to achieve same 10TeV results
- Top Partner Results Scaling (Brown): Exclusion limits depend on mass. Reduction factors of about 3 or less. Some clarification needed.
- LQ1 Results Scaling (Maryland): Discovery power reduced but dependence on scaling scheme.
- LQ2 Results Scaling (Northeastern University): Missing 10 TeV plots. Unable to compare.
- Majorana Neutrino Results Scaling (University of Iowa): Overall discovery power decreased. Mass dependence taken into account.
- Scaling of Stopped Gluino Results (H.H. Wills Physics Lab): Discovery potential as a function of time for discovery (different lifetimes). Discovery potential compromised by the instantaneous luminosity.
- Scaling of HSCP Results (ETH Zurich): Reduction factor of 1/3 on the possible cross-section exclusion
- Scaling of the $Z'(ee)$ Results (ULB): 5 sigma discovery reduced. 5 x lumi to obtain 10TeV results. Different resonances.
- Scaling of the RS G(mumu) Results (JINR): 5 x lumi to obtain 10TeV results.