



ANL - FNAL - UC Overlap

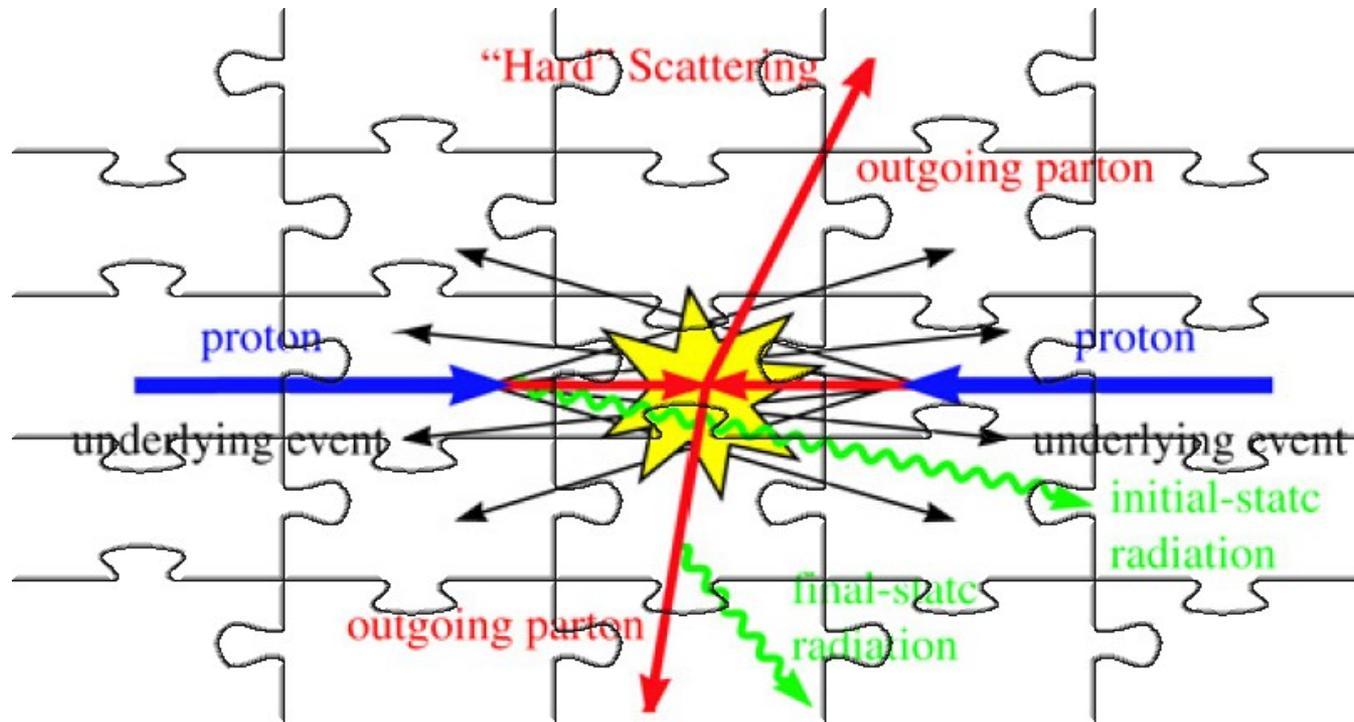
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The LHC as common ground

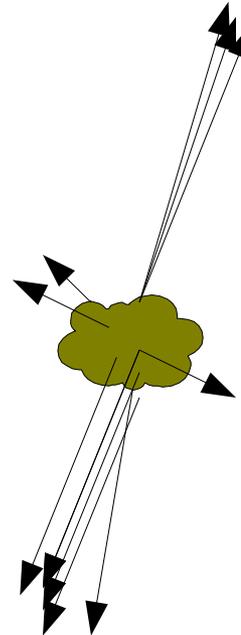
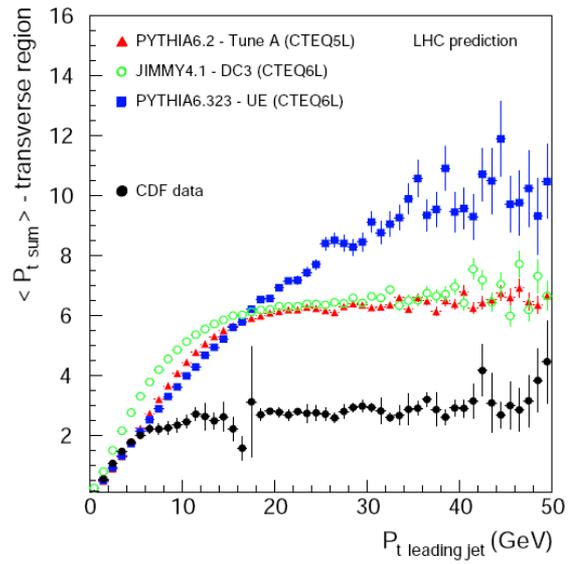
- LHC is a discovery machine
- Large extrapolation from 2 TeV
- CMS & ATLAS want early discoveries
- C&A have common phenomenological problems
- Run2 experience tells us what to do and what to avoid





Universal Pheno Problems

- **Underlying Event**
- Early ($10-100 \text{ pb}^{-1}$) measurement
- It will be chaotic to have private tunes
- Common tuning can be done early, safely
- Detectors have complementary features (CC and ECAL info)





Universal Pheno Problems

- Modeling of W/Z+jets, other standard candles
- Rates and distributions
- Can we have a framework for sharing info that does not compromise other searches
 - Would Vista work?



Universal Pheno Problems

- **PDFs**
- Tevatron has large x covered
- Don't know where exactly new logs come into play (BFKL)
- This is not precision physics, but, again, of mutual interest



Universal Pheno Problems

- **Jet Clustering Algorithms**
- Which ones are best for handling the LHC environment
- Are we using the EXACT SAME algos?
- Do we know how to compare jets?



Universal Pheno Problems

- **Fakes**
- How do gluons fragment into leading particles relative to quarks?



- These phenomena encompass many multiple fields/experimental techniques
- The assets of FNAL-ANL-UC are ideal for tackling these problems



Combinations

- If we don't have an early surprise, both experiments will be presenting exclusion results in certain scenarios. This will likely be SUSY benchmarks.



Want to know beforehand:

- Same new physics parameters?
 - Are they sensible (motivated?)
- Same generators and BSM tools?
- Same Standard Model?



Proposal

- Set up an environment here that encourages collaboration between US CMS and US ATLAS on common issues
- Use CTEQ as a host for a first joint workshop to discuss above issues
- Chicago area meetings