MC4BSM Kick-Off

April 3 2009

Motivation for the MC4BSM Workshops

- Generic problems
  - ◆ Experimentalists' complaints
    - • "This model is very nice, but do you have an event generator for it? Is this model in PYTHIA? ..."
  - ◆ Lack of manpower among MC writers
  - ◆ Too many/too active model builders

$$N_{\text{model builders}} >> N_{\text{MC writers}}$$

  - ◆ As a result,

$$N_{\text{existing models}} >> N_{\text{implemented models}}$$

  - ◆ Actually it is even worse:

$$\frac{dN_{\text{existing models}}}{dt} >> \frac{dN_{\text{implemented models}}}{dt}$$

Program for today Friday April 3

- 9:00-9:15 Welcome to MC4BSM - Matchev
- 9:15-10:00 BSM Theory Overview - Terning
- 10:00-10:30 Coffee
- 10:30-11:15 BSM in Pythia - Ask
- 11:15-12:00 BSM in Sherpa - Gleisberg
- 12:00-12:30 CompHEP and FeynRules - Christensen
- 12:30 - 2:00 Lunch
- 2:00 - 2:30 PGS - Conway
- 2:30 - 3:00 Les Houches Accord and Modularity - Skands
- 3:00 - 3:30 Coffee
- 3:30 - 6:30 Tutorials: FeynRules → MG/ME → Pythia → PGS
- 7:00 - 9:00 Dinner at Bistro 33 (Markus Luty)

Program for tomorrow Saturday April 4

- 9:00-9:45 BSM in D0 - Adams
- 9:45-10:30 BSM in CDF - Wright
- 10:30-11:00 Coffee
- 11:00-11:45 BSM in ATLAS - Black
- 11:45-12:30 BSM in CMS - Moortgat
- 12:30-2:00 Lunch
- 2:00-3:00 Contributed talks- Bai, Huang, Reece
- 3:00-3:30 Coffee
- 3:30-4:30 Discussion
- 4:30 End of Workshop

Tutorial prerequisites

- FeynRules → MG/ME → Pythia → PGS
- Feynrules is a Mathematica package. If you don't have Mathematica, you cannot participate in the first step ONLY.
  - ◆ We are going to project a Mathematica enabled computer on the big screen and people can follow what is happening.
  - ◆ The FeynRules output is pregenerated and available on the web. Download those and you are set to go with the next step (MG/ME).
- Instructions for downloading and installing the rest of the packages are available on the M4BSM web page.
  - ◆ Challenge: find the link! If you fail with this challenge, this tutorial is not for you.
- If you are confused, ask the corresponding author during the coffee break.