



Contribution ID: 187

Type: **Parallel Talk**

Tools for systematic event generator tuning and validation

Tuesday, 4 November 2008 14:00 (25 minutes)

Event generator programs are a ubiquitous feature of modern particle physics, since the ability to produce exclusive, unweighted simulations of high-energy events is necessary for design of detectors, analysis methods and understanding of SM backgrounds. However – particularly in the non-perturbative areas of physics simulated by shower+hadronisation event generators – there are many parameters which must be tuned to experimental data for useful predictions to be obtained. Attempting to globally tune these parameters to a wide range of experimental results is a task much better suited to systematic, computer-based optimisation than the traditional “tweaking by eye” approach. I will present the current status of the Rivet+Professor tuning/validation system, with emphasis on recent tunes of Pythia 6 to event shape, hadron multiplicity and underlying event data from LEP to the Tevatron.

Primary author: Dr BUCKLEY, Andy (Durham University)

Presenter: Dr BUCKLEY, Andy (Durham University)

Session Classification: Methodology of Computations in Theoretical Physics - Session 1

Track Classification: 3. Computation in Theoretical Physics