

# Status report for the Durham node

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# Overview

- IPPP hosts four MCnet projects:
  - HERWIG++
  - SHERPA
  - HEJ
  - Rivet/Professor
- In addition, there is the HepData database

# HERWIG++

- People: Peter Richardson, David Grellscheid, Alix Wilcock, Dorival Goncalves
- David also involved in Rivet (and other projects)
- From October:
  - Simon Platzer (through Marie Curie fellowship) &
  - Peter Schichtel (through MCnet)
- Ongoing work:
  - ME corrections through method inspired by Powheg, without local K-factor
  - implementation bases on MG 5 + Matchbox (see talk by Alix)
  - FeynRules interface

# HEJ

- People: Jeppe Andersen, Tuomas Hapola, Helen Brooks
- Ongoing work:
  - add more processes to framework (tops)
  - going to include NLO matrix elements
  - extending to two unordered emissions in “shower”

# Sherpa

- People: Marek Schoenherr, Jennifer Thompson, Silvan Kuttimalai, Frank Krauss
- From May: Holger Schulz as replacement for Hendrik Hoeth  
→ will also continue work on Rivet & Professor
- From October: Philip Maierhoefer to replace Marek, strengthening ties with OpenLoops
- Ongoing work:
  - In-depth validation of NLO matching and merging technology in many processes (see talks by Marek & Jennifer)
  - playing with loop-induced processes and corrections, especially on Higgs in  $ggH$  (see talk by Silvan)

# Rivet and Professor

- Hendrik Hoeth left in September for private sector  
→ will be replaced by Holger Schulz in May
- Nominally at the moment no manpower in both projects, being maintained and extended mainly by Andy Buckley, Frank Siegert + Durham people (David & Holger)
- Rivet went to version series 2, a number of changes, need maturing and adding stability in installing and running  
→ here MC authors could and should play a role
- Need to discuss improvement of ties between Rivet and HepData and meaningful ways to donate analyses which do not become part of Rivet core versions

# Other members

- Short-term student Sabrina Sacerdoti (U Buenos Aires) to work on multijet signatures in ATLAS
- Loosely associated:
  - Jennifer Smillie (U Edinburgh) through HEJ
  - Korinna Zapp (CERN) through Sherpa
  - Stefan Hoeche (SLAC) through Sherpa
  - Andy Buckley (U Glasgow & CERN) through Rivet

# HepData

- HepData undergoes change right now:
  - Mike Whalley about to retire and stay on massively reduced base (1-2 days/week)
  - Graeme Watt started in October 2013 to take over
- Increased demands, especially by Inspire
- Will need to facilitate direct upload of data, maybe in Root format and others, will have to provide DOIs for datasets
- We want to provide more robust bi-directional links to Rivet and, possibly, other software (MC run cards etc.)
  - Maybe links to MCplots?
- Needs discussing here