Gridpack/LHE production @ IIHE: status

- small **script for LHE file removal** based on text file with seeds:
  MCProduction/13TeV/scripts/deleteLHE.py

```
python deleteLHE.py -f <seedfile> -d <storagepath>
     -i <institute> (--deletelog) (--dryrun)
```

- Several **issues with cluster/storage** this week
  - (1) significant fraction of LHE jobs failing (randomly?)
  - (2) pbs cluster submission problems (qsub/qstat commands)
  - (3) issues with lcg-ls command in lobster script
    - command itself didn't work for a while
    - lobster -status problems; timeout when
      listing > 1000 files
      → also in Strasbourg?
      → "srmls" didn't work either, solved by replacing
      with regular "ls" command

Caused significant delay, but (2) and (3) are 'solved', (1) is still present
but can be overcome by submitting more jobs than needed

Gridpack/LHE production @ IIHE: SM EW

SM Electroweak

	Gridpack	LHE files
WZ → lν jj	**ok**	**1M**
ZZ → ll ll	**ok**	**100k**
ZZ → ll jj	**ok**	**300k**
Z → ll (mass 10-50) + 0 jets	**ok**	**100k**
Z → ll (mass 10-50) + 1 jets	**ok**	**100k**
Z → ll (mass 10-50) + 2 jets	**ok**	**100k**
Z → ll (mass 10-50) + 3 jets	**ok**	**77k** (cfr ZToLL+3jets problem Strasbourg)
Z → ll (mass 10-50) + 4 jets	**ok**	**Ongoing** (all jobs exceeded walltime of 40 hrs)
W → lν + 0 jets	(ok)	**50M**
W → lν + 1 jets	(ok)	**ongoing**
W → lν + 2 jets	(ok)	**50.3M**
W → lν + 3 jets	(ok)	**ongoing**
W → lν + 4 jets	(ok)	**some jobs end up with < 100k events**

Gridpack/LHE production @ IIHE: Higgs and signal

Higgs samples

	Gridpack	LHE files
TT (dilep) + Higgs → (...)	Running	
TT (semilep) +Higgs → (...)	Running	
Higgs → (...)	ok	

TT signal samples

▪ Started preparing and testing cards for different processes; MG+MadSpin+Pythia6 chain being tested. Thanks to Adam for helping!

  Nomenclature e.g.

  TTsemilep_*-Kappa*: leptonic SM top decay $t \to bW \to bl\nu$

  TThadr_*-Kappa*: hadronic SM top decay $t \to bW \to bqq$

▪ **Samples to be made** (in decreasing priority)   [H decay in Pythia]

  TTsemilep_cHTo*-Kappa-hct,   TThadr_cHTo*-Kappa-hct

  TTsemilep_cZ-Kappa-hct,   TThadr_cZ-Kappa-hct

  TTsemilep_cGamma-Kappa-act,   Tthadr_cGamma-Kappa-act

  TTsemilep_cG-Kappa-Kappa-gct, Tthadr_cG-Kappa-gct

And corresponding samples for up quarks and couplings...

Q: What was difference between kappa and zeta again?

LO and NLO cross sections with FEWZ 3.1

- See mail of Kevin on Friday 01/08

ZToLL — [CTEQ6L1 used in MG production]

@ 13 TeV		sigma (pb)	ERROR (pb)
	LO (FEWZ 3.1 CTEQ6L1)	4846.8	29.7
	NLO (FEWZ 3.1 CTEQ6L1)	5407.59	1.32
	NLO (FEWZ 3.1 CTEQ12NLO)	5875.14	1.17
	NNLO (FEWZ 3.1 CTEQ12NNLO)		

ZToLL10-50 — LO >> NLO?

@ 13 TeV		sigma (pb)	ERROR (pb)
	LO (FEWZ 3.1 CTEQ6L1)	34978.38	0.6
	NLO (FEWZ 3.1 CTEQ6L1)	14364	9
	NLO (FEWZ 3.1 CTEQ12NLO)	21240.9	7.2
	NNLO (FEWZ 3.1 CTEQ12NNLO)		

WtoLNu

@ 13 TeV		sigma (pb)	ERROR (pb)
	LO (FEWZ 3.1 CTEQ6L1)	49361.79	1.48
	NLO (FEWZ 3.1 CTEQ6L1)	55158.6	4.10
	NLO (FEWZ 3.1 CTEQ12NLO)	59543.1	4.5
	NNLO (FEWZ 3.1 CTEQ12NNLO)		