Gudrun's (NLO) list

- **2->3**
  - ◆ pp->WW jet
  - ◆ pp->VVV
  - ◆ pp->H + 2 jets

- **2->4**
  - ◆ pp->4 jets
  - ◆ pp->tT + 2jets
  - ◆ p->tT bB
  - ◆ pp->V+ 3 jets
  - ◆ pp->VV + 2 jets
  - ◆ pp->VVV + jet
  - ◆ pp->WW bB

can be given to good student
(at least one of Thomas' students)

- **From technology point-of-view**
  - ◆ start with massless cases such as
    - ▲ $\gamma\gamma$ + 2 jets
  - ◆ then add progressively more difficult calculations (additional scales and/or subprocesses)
    - ▲ W + 3 jets
    - ▲ pp->4 jets
    - ▲ WW + 2 jets
    - ▲ tT + 2 jets
    - ▲ tT bB
    - ▲ WWbB

Experimental priority list

- **Gudrun's list**
- **2->3**
  - pp->WW + jet
  - pp->VVV
  - pp->H + 2 jets
- **2->4**
  - pp->4 jets
  - pp->tT + 2jets
  - p->tT bB
  - pp->V+ 3 jets
  - pp->VV + 2 jets
  - pp->VVV + jet
  - pp->WW bB

1. pp->WW jet
2. pp->H + 2 jets
   1. Background to VBF Higgs productiong
3. pp->tT bB
   1. background to tTH
4. pp->tT + 2 jets
   1. background to tTH
5. pp->WWbB
6. pp->V V + 2 jets
   1. background to WW->H->WW
7. pp->V + 3 jets
   1. general background to new physics
8. pp->V V V
   1. background to SUSY trilepton

Experimental priority list

- Note have to specify how inclusive final state is
  - what cuts will be made?
  - how important is b mass for the observables?
- How uncertain is the final state?
  - what does scale uncertainty look like at tree level?
  - new processes coming in at NLO?
- Some information may be available from current processes
  - pp->tT j may tell us something about pp->tTbB?
    - j=g->bB
  - CKKW may tell us something about higher multiplicity final states

1. pp->WW jet
2. pp->H + 2 jets
   1. background to VBF production of Higgs
3. pp->tT bB
   1. background to tTH
4. pp->tT + 2 jets
   1. background to tTH
5. pp->WWbB
6. pp->V V + 2 jets
   1. background to WW->H->WW
7. pp->V + 3 jets
   1. beneral background to new physics
8. pp->V V V
   1. background to SUSY trilepton