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Bi-weekly updates

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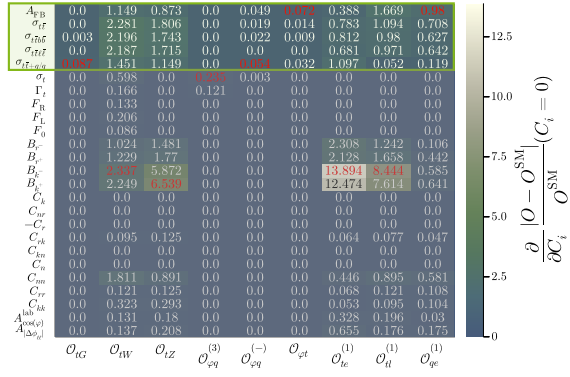
DPG

- DPG slides in a (quite) final state, just minor updates on title slide and figure for introduction slide
- Talk next Tuesday 5:45pm

Collection of sensitivities

- Procedure as described for all of the 25 observables
- Organised in matrix and most sensitive observable per operator highlighted in red
- Production: Several processes dominated by $t\bar{t}$ production



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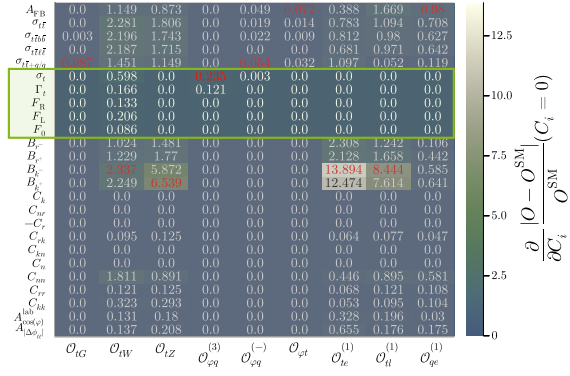
  → modification via C_{tW} and $C_{\varphi q}^{(3)}$



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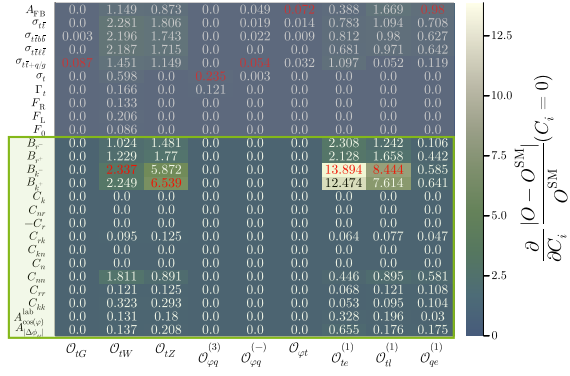
- Both: Composition of production and decay



FCC meeting & samples

- Attended the FCC-ee working group meeting:
  - Quite small audience (~ 25 participants)
  - Seem to be happy for any contribution to the FCC studies
  - Something like DPG presentation planned for next meeting in a month
- Got access to first processed samples on `/eos`
  - Selected $e^+e^- \to t\bar{t} \to \mathbf{everything}$ sample with $100\mathrm{k}$ events @ $\sqrt{s} = 365\,\mathrm{GeV}$
    → Comparable to our samples
    → Observables at $C_i = 0$ also similar?
  - Strategy for further processing the samples

FCC samples

- Samples available on reconstruction level
- `FCCAnalyses` provides software for analysis of FCC samples
- Conversion script as highlighted in their tutorial to convert samples to `RDataFrame` (tutorials here) called `analysis.py`:

```
    self.df = ROOT.RDataFrame("events", inputlist)
    print (" done")
#_____________________________________________________
def run(self):
    df2 = (self.df
       # define an alias for muon and electron index collection
       .Alias("Muon0", "Muon#0.index")
       .Alias("Electron0", "Electron#0.index")

       # define the muon collection
       .Define("muons", "ReconstructedParticle::get(Muon0, ReconstructedParticles)")
       # select muons on pT
       .Define("selected_muons", "ReconstructedParticle::sel_pt(10.)(muons)")

       .Define("selected_muons_charge", "ReconstructedParticle::get_charge(selected_muons)")
       .Define("selected_muons_px", "ReconstructedParticle::get_px(selected_muons)")
       .Define("selected_muons_py", "ReconstructedParticle::get_py(selected_muons)")
       .Define("selected_muons_pz", "ReconstructedParticle::get_pz(selected_muons)")
```

- User asks for kinematic variables of leptons, jets, MET,...
  → Results in `.root` file with `RDataFrame` structure

FCC samples — processed