

What Do We Want In Our Report?

RPF Conveners
All RPF Topical Group Convener Mtg
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Focusing Question

- Snowmass is about collecting ideas and distilling their structure as input to P5
 - that means we have to find common themes
 - common themes get lost in a welter of individual LOIs
 - we have to stop thinking about 150 LOIs and start thinking about big ideas
- Everything we do has to be about what our community thinks P5 should write
 - make sure everything we write advances that goal

What We Want

- A compelling, broad vision of our physics
- We have some trouble unifying themes by the nature of our Frontier
 - That doesn't mean we can't find a few big topics
 - we do flavor physics
 - who do lepton moments
 - we do DM at accelerators
 - we do hadron spectroscopy
- Our job is to distill the big questions

What We Don't Want

- A long list of LOIs
- Something that covers everything in a flat hierarchy
- We are DPF; we are not DNP or AMO
 - of course there are physics overlaps
 - of course they influence our thinking
 - but we are not going to be writing reports about DNP EIC physics or AMO nEDM experiments. They **have** to take a secondary role. $0\nu 2\beta$ is a special case

Random Examples of Themes

- Fundamental Physics in Small Experiments:
 - what are the physics opportunities in storage ring EDMs?
 - what are the physics opportunities for cold \bar{p} at CERN?
 - what is the case for a broader muon program?
- CLFV
 - what can be done with muon-electron conversion? other modes? τ CLFV?
 - is there a community that wants a muon physics program of which CLFV is a part?

More Random Examples

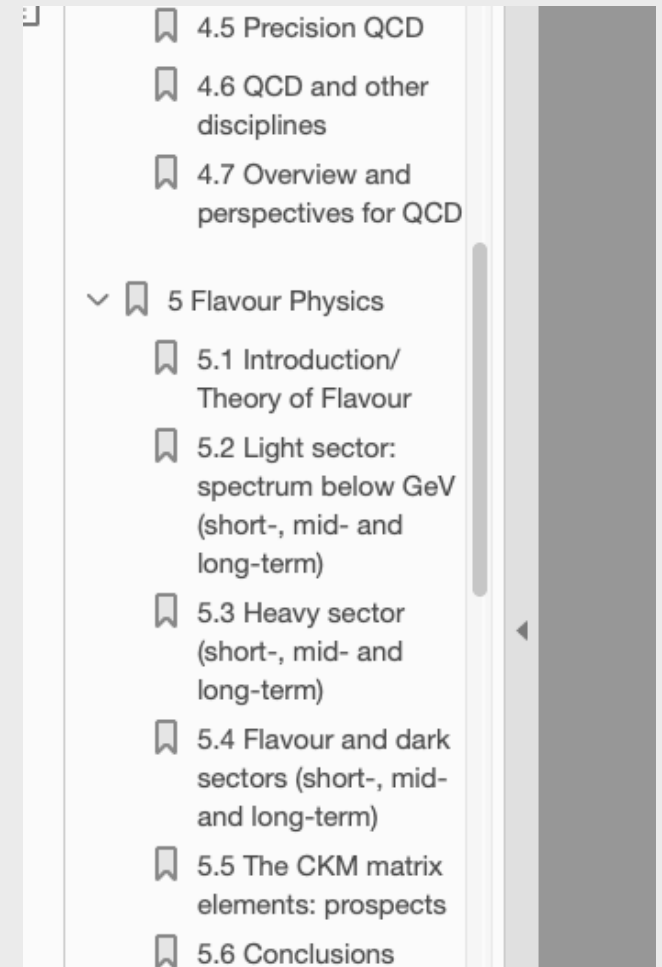
- LHCb upgrades:
 - how do the upgrades affect each of our TGs?
 - in general purpose machines, probably need sections in TG and in overall
- Opportunities in τ charm factories
 - what physics do they enable?

Something We Haven't Done

- Are there community-wide issues Snowmass should distill?
 - we discussed more support for GEANT, both in physics and in heterogenous computing
- We could write something that says this better GEANT support is critical for our frontier, and maybe join with other frontiers
- But thinking this broadly is what we were asked to do

Suggestion

- See European Physics Briefing Book
 - <https://arxiv.org/abs/1910.11775>
- Can we produce something like this?
 - doesn't have to be same structure, but tone and level are good
- Read it and see what ideas it gives you



4.5	Precision QCD
4.6	QCD and other disciplines
4.7	Overview and perspectives for QCD
5	Flavour Physics
5.1	Introduction/ Theory of Flavour
5.2	Light sector: spectrum below GeV (short-, mid- and long-term)
5.3	Heavy sector (short-, mid- and long-term)
5.4	Flavour and dark sectors (short-, mid- and long-term)
5.5	The CKM matrix elements: prospects
5.6	Conclusions

Schedule Until and After Snowmass

- We'll discuss details of the schedule later, but there are some good ideas there
- “Focus Questions” in the document we included: exactly what we're discussing.