

Status of High Energy Physics

Chapter

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The backstory

- Who am I? I am an ATLAS collaborator, affiliated to University of Witwatersrand in South Africa. This year I am on sabbatical, based in the University of Glasgow in UK, funded by a Royal Society Visiting Fellowship.
- My involvement: in mid October, Ketevi requested me to have a look at the chapter and update it reflecting the current situation.
- Since then: in this short time, I rewrote the first five sections, borrowing heavily from the excellent work colleagues have put in so far.

What I did ...

- Looked at ATLAS internal database (Glance), and inspire (for phenomenology papers) to update these sections.
- Mostly kept the CMS and Neutrino experiments sections as they were, but harmonised a bit.
- Tried to add a bit of context to what we do, success stories, training events, perspectives of funding bodies.
- Added a future experiments section, with a focus on the EIC.

I do apologise to colleagues if something they want was removed. Because I did not have a lot of time, I wrote my section locally based on what was on overleaf in October, and replaced these sections on overleaf last week, so some newer updates may have been lost.

What I want to do...

- Harmonise the rest of the sections to make it stylistically consistent with the first ones.
- Get more inputs from the community based on what we have now, and incorporate them. I have no access to CMS, so if CMS colleagues think their section can be updated based on what they are involved in now, that will be very appreciated, for example.

Some Open Questions

- My approach has been to treat this as an experimental chapter, and apart from some phenomenology closely connected with experiments, it is basically an experiment-focused writeup. However, there are colleagues doing more formal theory, including but not limited to string theory, gravity etc, which we are ignoring now. If we want to have a section on that, we need to ask someone from that community.
- In terms of references, I struggled with the balance. The earlier version cited some select papers from phenomenology, but then it is hard to decide which ones to cite? The same goes for experiments, do we highlight individual papers (from each group/institute/country? how many? who decides which ones?) or just have the narrative?