

EDM calculations

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Projects

Two possible projects proposed:

1. EDMs in the SMEFT \rightarrow automate pipeline from BSM to EDM
2. EDM calculations \rightarrow incorporate latest two-loop results into codes

Participation:

- 8 people signed up
- 5 active participants (4 permanent/1 student) ... all theorists. We would like to hear from experimentalists too!

Decision was to morph into an EDM discussion/working group.

Activities

Held two (very interesting! And not interminable!) discussion meetings:

- Understood state of the art
- Agreed that investigation of matching to SMEFT + running approach vs. direct two-loop calculation would be interesting.
- Discussed where theory improvements can be made ...
- ... in particular after M. Ramsey-Musolf's excellent talk.

Outcomes

- Will continue to discuss in November, with hope to build a collaboration/working group within GDR.
- Will share papers and code, build resources, continue discussions au fur et à mesure.
- Personally I'm very motivated to improve the calculations along the lines discussed, with the aid of the group.
- So if you have an interest in EDMs drop me a message ... have already been contacted from outside the GDR ...

I see this as having been a success!

Conclusions

- I am happy with the outcome!
- Would have been nice to get more students on board and actually build something in real time (maybe that is too optimistic).
- Need feedback to what people want from “hands-on” projects: do people actually want a Les-Houches style working group? Something long term?
- I personally would like to see this sort of thing generalised (e.g. like HiggsXSWG), not sure if everyone does! (Maybe people have enough spam/working groups)
- Drawback: I didn't have time to participate in all the other activities that I wanted to ...