

News

Andreas von Mantteufel: last time we promised to schedule a meeting of the perturbative QCD community to get organized. He is interested in attending and volunteering and coordinating with Laura Reina. Peter will initiate the chain reaction of email messages to organize this meeting.

Zarija Lucik: He will report for the Cosmic Calculations team.

Zach Marshall: Say very clearly what the scope of the technology talks should be. We have enough general talks about these technologies. It would be better to have talks about concrete examples of applications or how to integrate this technologies.

Eric Stern/Zach Marshall: It is unlikely to find a person who has the knowledge about what is going on in all areas or has the time to collect the information.

Steve Gottlieb: It would be good to allocate time for discussion. Have a panel at the end.

Zach: It would be better to ask each speaker to discuss the use of technologies in each domain and then have a general discussion at the end.

Final proposal: Ask each speaker to talk about applications of technologies, including GPUs, ML, to their sub-domain. At the end we will have a discussion on how these technologies cut across all the domains, how viable people think they are, what are the technical challenges, personnel needs, training needs, potential collaboration across sub-domains and across CF groups, as well as collaboration with other areas of research such as computing researchers, and industry. There would be a moderator for the discussion. Speakers would be, in principle, drawn from the list of contacts. The conveners will send an email to the email list with the draft agenda and the potential list of speakers for comments and confirmation.

Question: How many LOIs? As many as people want. People are also welcome to work together if they have common visions. The important thing is that no topic is left out.

Status of LOI: physics generators

Steve Gardiner: S. Mrenna and he have started to work on this. They will have a meeting shortly to discuss what they put together and additional items and also people to contact. They will think in what ways they have to go beyond the HSF roadmap document. The neutrino community met to discuss ideas on neutrino generators for LOIs. Steve put together a strawman google document on needs and technical challenges.

Peter Boyle: DOE emphasized the importance of collaborating across fields, partnering with ASCR, applied mathematicians, industry. They said CF and IF needs together are of the same

order as the HL-LHC needs. Important to make quantitative statements about computing (e.g. CPU, storage) needed.

Status of LOI: Accelerator & beam physics modeling

Axel Huebl showed the evolving web page where the community is collecting lists of topics. Topics were updated since the last meeting.

He Zhang: Is there going to be an effort to make accelerator simulation tools more compatible with each other through standardization of for example input/output formats?

Peter Boyle/Axel Huebl: We should also leverage experience of people using portability tools. There are many elements in common among the different portability tools, so people can collaborate, share code. Many tool developers have worked with Kokkos, Alpaka, SYCL, Raja using them as abstractions to make code portable to different computer accelerator technologies.

Status of LOI: Detector/beam simulation

Krzysztof Genser: Not too much progress with respect to last week. Zach/Vince will write an LOI. An Argonne group will write another. Genser would like to write a common one.

Vincent Pascuzzi: There is a group of 3-4 people working on an LOI about ML applications to detector/beam simulation.

Andreas Kronfeld: The effort is international in the sense that expertise from international colleagues is welcome.

Status of LOI: Theoretical calculations (LQCD)

Andreas Kronfeld: The LQCD community agrees with the policy of the more LOIs, the merrier. Coordinating on two pages takes more time than writing many sets of 2 pages. He expects 3-4 LOIs. As well as 20 from other Snowmass groups who would check the box as being connected with our CF2 group.

Status of LOI: Theoretical calculations (Perturbative)

Peter Boyle sent an email to a group of experts to set up a phone call to discuss LOIs.

Status of LOI: Cosmic Frontier simulation

Zarija: they had first interactions. They will be looking for people in CMB simulation input, also exascale project participants. They are in the early stages of the planning of LOIs. The current idea is to submit one LOI but CMB may do it separately.

Peter: Any interactions with the Gaia program?

Zarija: no