PB TMD meeting

- Hoping that you are all ok !

Next workshops

- Parton Shower Resummation 25-27 May 2021 (deadline 30 April)
- LHCP 7 - 12 June 2021 (deadline passed)
- ISMD from 12 - 16 July 2021 (deadline 15 June 2021)
- EPS from 26 – 30 July 2021 (deadline for abstracts 7 May 2021)
  - QCD and Hadronic Physics
    - Mateuysz Dyndal
    - Laura Fabbietti
    - Dan Johnson
    - Zoltan Nagy
    - Ferenc Sikler

TMDlib paper – referee report

My main concern with this manuscript is that it is quite short and most of it documentation and examples. I have the feeling that it is more a "release note" than a tools paper, but I leave to the editor to decide if this paper really belongs to the EPJC Tools section.

Furthermore, I played a bit with the online tool (see comments below) and found that many of its functionalities are broken or do not work. Certainly, until the online plotter is not fully operative, the paper cannot be published.

These considerations aside, I had a number of technical comments that should be addressed before the paper can be deemed suitable for publication:

* There is no discussion about the accuracy of the interpolation. I think this is an important point to clarify, for the user to understand how reliable is the output of the code as compared to the original TMD determination.

* There is no discussion either of the memory footprint of the code, and this also should be addressed. This was a main bottleneck for previous versions of LHAPDF so would be good to discuss what is the situation in TMDlib.

TMDlib paper – referee report (cont'd)

* I found striking that if I go to the website that the authors provide

I see that the latest release of TMDplotter is v2.2.2 is, while this paper and all the plots produced with it are based in TMDplotter 2.2.3! So certainly this needs to me fixed before the next steps, else it is very misleading

* Maybe I have been unlucky, but the first time I tried to plot TMDs with uncertainties I got nonsense (see attached screen shot). Of course this is with an old version, but still it is disquieting that a functionality as important as that of the TMD uncertainties seems to be broken.

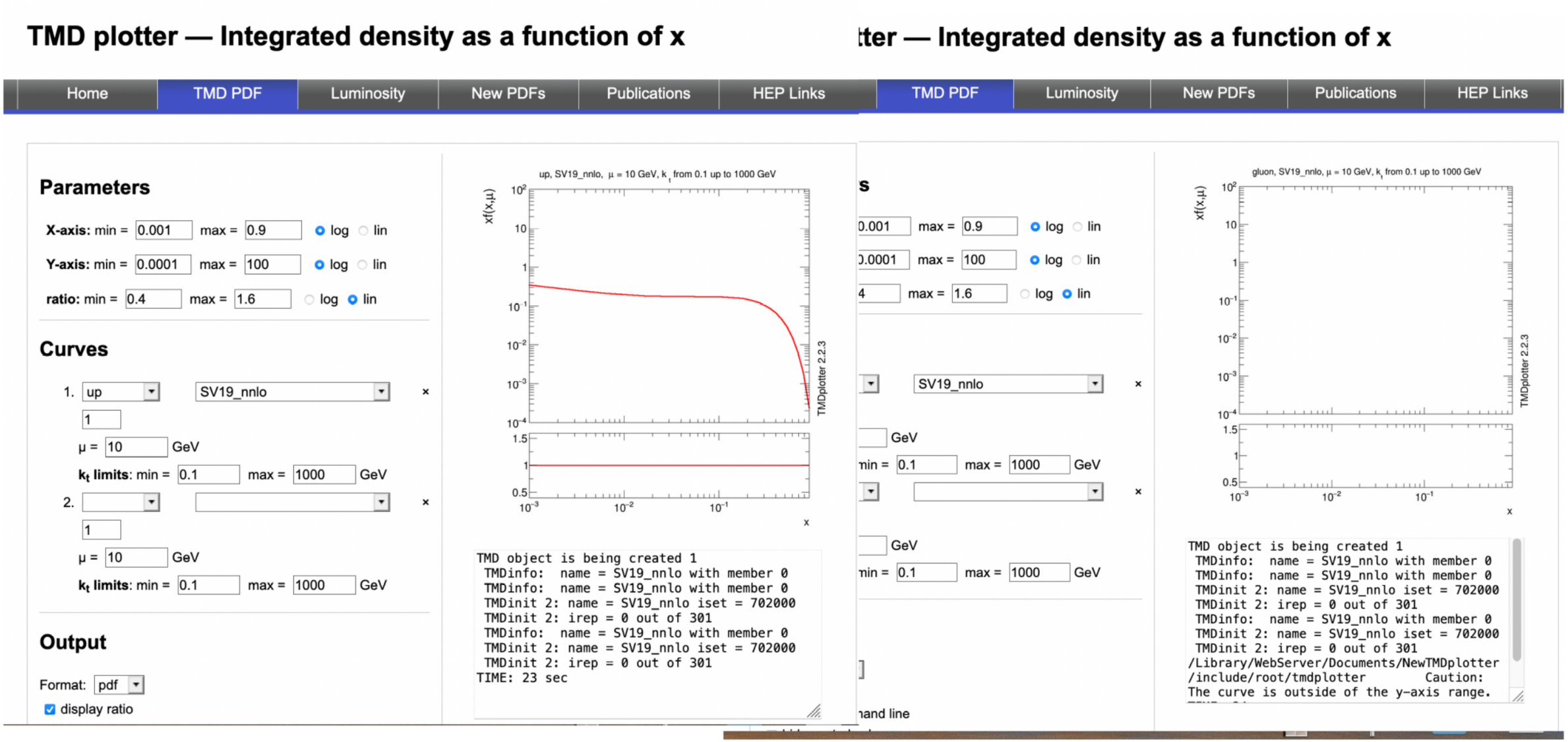
* I think that it would be good to make the paper more self-contained concerning the physics of the TMDs. For example, a naive user might find the huge differences between integrated PDFs in Fig. 1 right quite striking. So one should comment why and by how much one expects differences between collinear PDFs and integrated TMDs.

* I found remarkable that the authors do not mention APFEL-Web, which is by now the standard tool for online plotting of collinear PDFshttps://apfel.mi.infn.it/ and for which TMDplotter is the analog in the case of TMDs.

* I tried to compare iTMDs with collinear PDFs (see attached plot) and again the online plotter seems to be broken. Also, the NNPDF family of unpolarised PDFs have an error band based on the Monte Carlo method, and this option does not seem to be available in the interface?

TMDplotter improvements

- How to indicate validity of TMD in plotter ?



- How to deal with timing issues – timeout should be avoided…
  - but how to indicate “still running” ?

Agenda

PB TMD discussion

Friday 30 Apr 2021, 15:30 → 17:30 Europe/Berlin

Description Join Zoom Meeting

https://cern.zoom.us/j/97149635135

passwd: 2020

Meeting ID: 971 4963 5135

15:30 → 15:35 **Intro**

15:35 → 15:55 **CS kernel from MC**

Speaker: Aleksey Vladimirov (Regensburg)