The authors present a fit of PDF (within the MSHT20 framework), studying the impact of the joint QED and approximate next-to-next-to-next-to-leading order (N^3LO) QCD corrections. This builds and combines previous work of the MSHT group (refs.[5,7,8]). As such, the present study inherits some the short-comings of those previous studies, for example the particular approach to the N^3LO evolution kernels (see, e.g. ref.[6]), the model dependence in the photon PDFs introduced through the LUXqed approach adopted in refs.[7,8], etc. This is acceptable, but the presentation should be improved to make it self-contained without requiring consultation of refs.[5,7,8]. Some suggestions are listed below.

1. In sec.3.1, line 10 from the beginning of the section there is some typographical mistake.

2. In sec.3 it would be helpful to present all PDFs also at the starting scale of the evolution of fit, in particular the photon PDF along with its uncertainties.

3. The combined QED and approximate N^3LO QCD evolution uses both α and α_s, which are order dependent in the standard $\overline{MS}$ scheme. In order to assess the impact of the various new corrections over a fit at next-to-next-to-leading order (NNLO), variations of those parameters should be addressed.

4. Details on the methodology could be summarized better. Not all data listed in tab.2 are sensitive to photon PDFs and QED effects.

5. The ATLAS high precision W and Z boson data collected at $\sqrt{s} = 7$ TeV shows a value $\chi^2/N \simeq 100/60$ in tab.2, which is not ideal, but reasons are unclear.

6. Sec.4 lacks some motivation for the PDF fits at leading order (LO), given the known deficiencies also discussed by the authors. In particular the uncertainties of those LO PDFs remains questionable.

7. It would be useful summarize the basic features of the PDFs in sec.5. While some of those information is contained in the LHAPDF .info files, a comprehensive summary in the research paper is welcome.

8. In app.A the cross section computations lack some information on the parameters used, like α_s, boson masses etc.

I suggest a revision of the paper to address those comments before publication in SciPost.