Determination of photon PDF from High Mass Drell Yan data at LHC

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abstract goes here: ...

CONTENTS

I. INTRODUCTION

II. THEORY

discuss theory improvements: addition of the NLO QED+QCD piece

III. SETTINGS

IV. RESULTS

A. Sensitivity

show impact of HM DY on PDFs using sensitivity studies based on pseudo-data, for which we only use the data uncertainties, while central value are fixed: HERA I+II vs HERA I+II + HMDY –> see the sensitivity plots from the previous email

conclusion: HMDY data has a large impact on photonPDF

B. Reweighting

proceed to reweighting of the global photon PDFs : $NNPDF3.0\_nnlo\_qed$

–> see the reweighting plots (select only the NNPDF3.0nnlo qed from the previous email)

perhaps add a chi2 table for various global PDF sets on the market to check the agreement between HMDY data and predictions: CT14qed, NNPDF3.0qed, LUXqed...

conclusion: HMDY can considerably reduce the uncertainties on photonPDF for global PDFs

C. Fits

–> extract PDFs using HMDY +HERA data? and plot it in comparison with global QED PDF sets (reweighetd)?

V. CONCLUSIONS