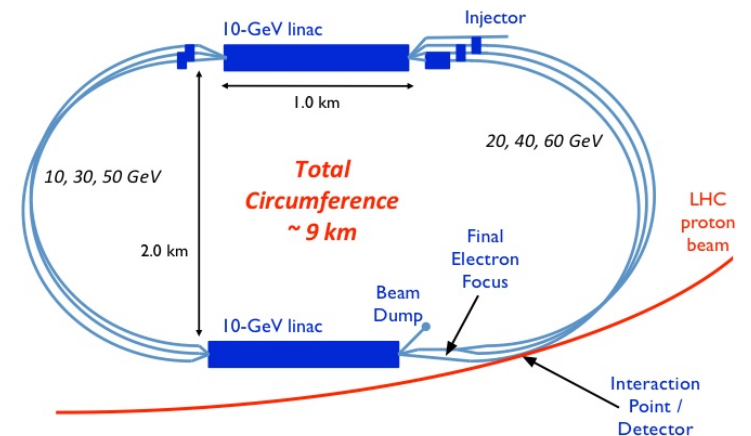
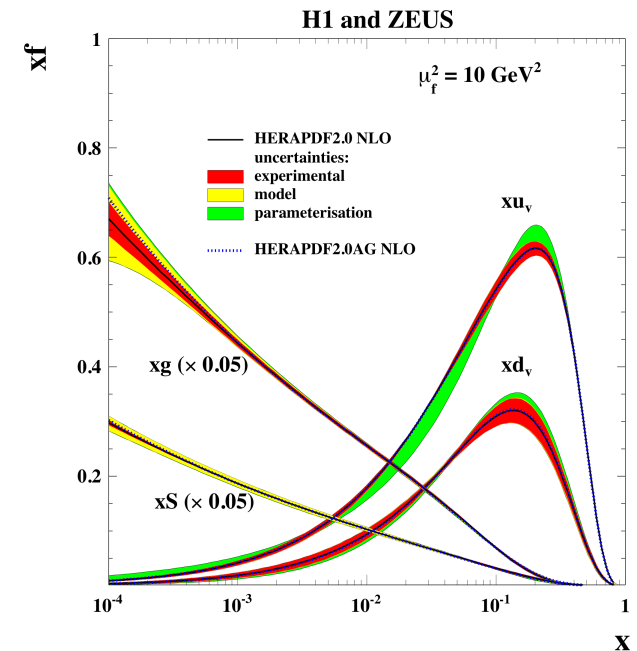


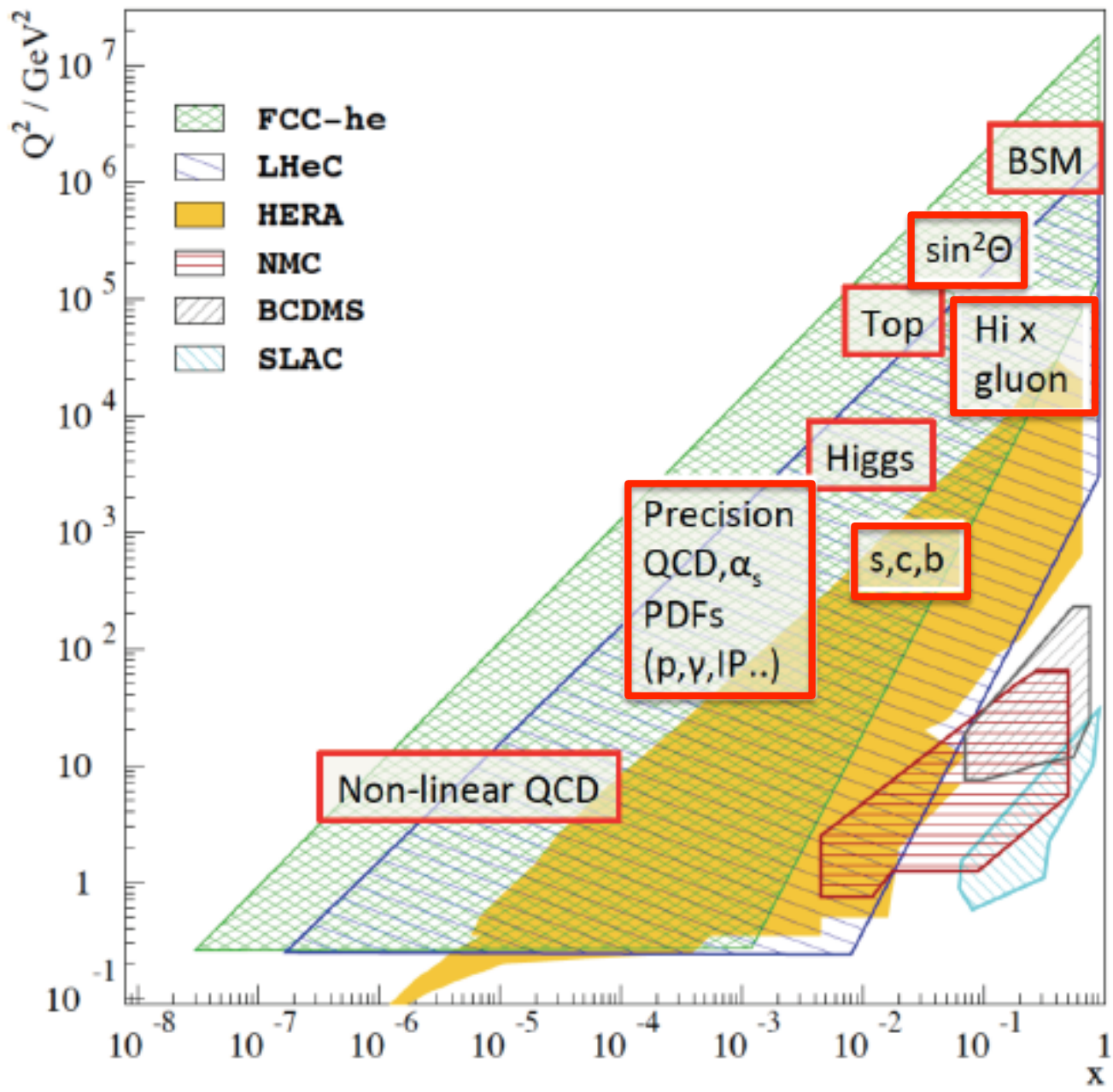
ep (and eA) Scattering, PRN, 30/9/15

H1: Birmingham direct involvement ended some time ago; final H1+ZEUS proton structure results now published

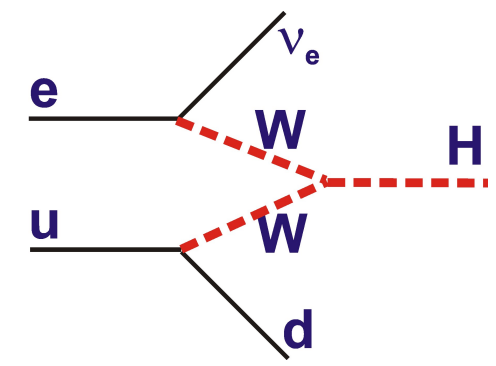
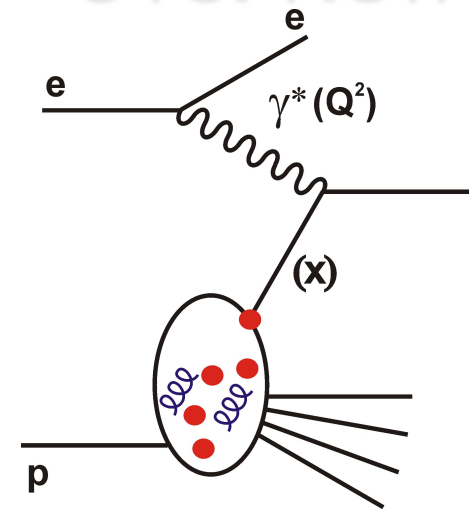
LHeC:

- PRN was deeply involved in CDR (2012).
- Also contributions from PPA, JB
- Renewed interest following:
 - Possibility of $10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ luminosity
 - Higgs discovery, searches and new measurements at LHC \rightarrow fresh look at extent to which PDFs / QCD limits HL-LHC sensitivity.
 - Associated technical developments (High gradient cavities, ER linacs)
 - Longer term perspective of LHC (\rightarrow 203x) and possibly of FCC





Physics Overview



Ongoing work to refine physics case, better define accelerator & detector, build collaboration → CERN Strategy 2018

US Electron-Ion Collider

Also - US Electron Ion Collider Project
(Brookhaven / Jefferson).

... Lower energy, but would be world's
first eA collider and polarised protons
→ nucleon spin / transverse structure

Some overlapping interest with LHeC

Highest priority project in US Nuclear
Physics Long Range Plan ... construction
start not before 2020

Significant interest among UK nuclear
Community (Peter Jones @ Birmingham). PRN in close contact.

May offer opportunities for Silicon Detector deployment

