NNLO and EW corrections

NNLO predictions have substantial uncertainties:

- DYNNLO and FEWZ agree well for Z
- DYNNLO is above FEWZ for W^- by 1.5% and by 1.0% for W^+.
- Part of the difference, 0.5%, is releated to the partial width treatment: FEWZ uses input fully dressed width, while DYNNLO used born width.

W, Z inclusive paper uses FEWZ and does NOT apply additional EW corrections explicitly, which is a consistent approach.

Another approach is to apply EW corrections externaly using SANC and use DYNNLO with born partial width. Paper approach neglects initial-final state intereference effects, which are small, another approach has potential double counting for the full width.

$\rightarrow$ the paper approach seems to be more consistent. Take external estimation of the pure weak radiative corrections as an uncertainty.

Change back to the paper treatment is a larger effect for W/Z ratio:
0.7% Z EW corrections SANC + 0.5% W dressed branching +
1 FEWZ – DYNNLO = 2.2%. This corresponds to a shift of roughly σ_{exp}.
We will use the treatment with DYNNLO+external pure weak corrections as a *cross check*.