Unpolarized Radiative Corrections
Interpolation Systematics and Unfolding Methods

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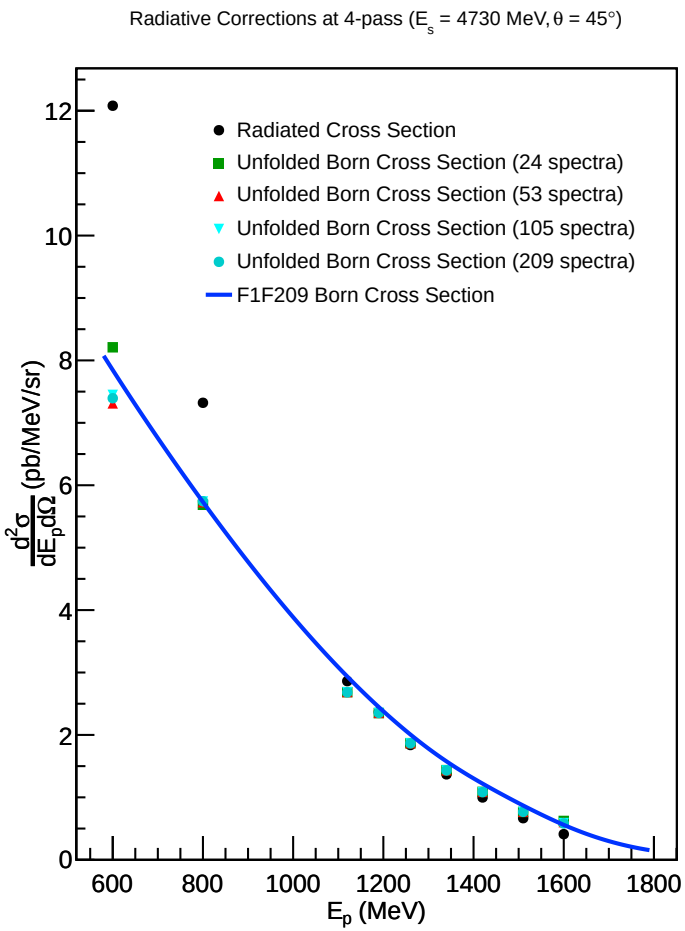
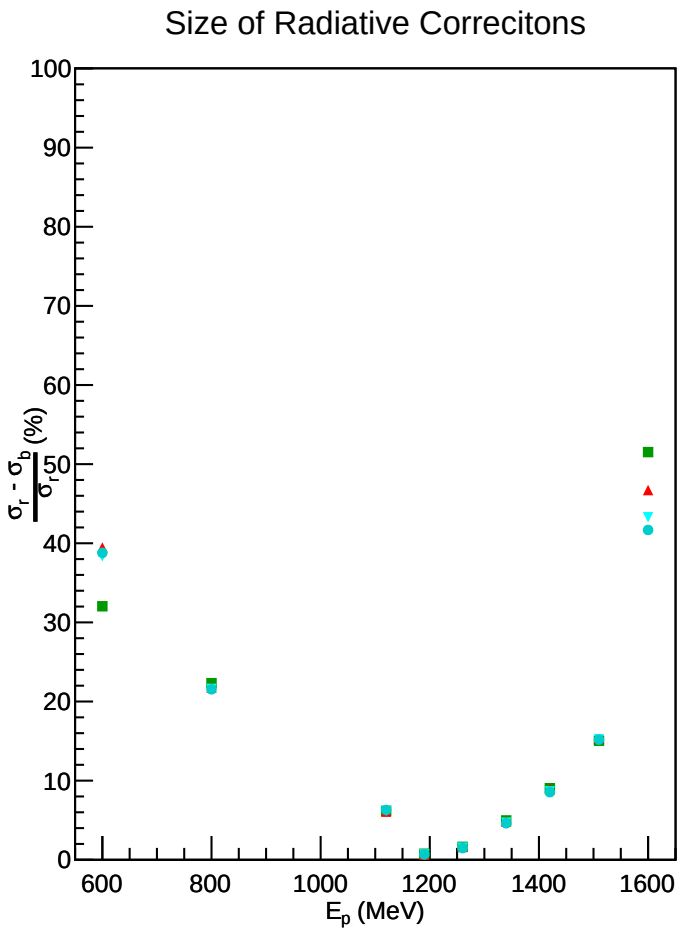
Outline

1. Interpolation Systematics
2. Unfolding Methods
3. Summary

Interpolation Systematics (1)

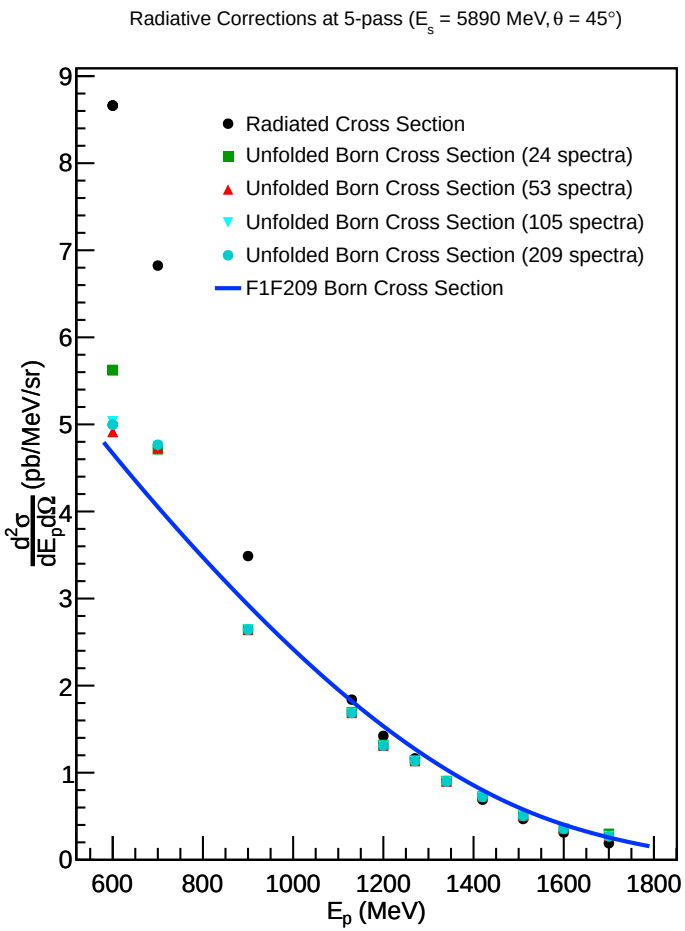
4-pass Data

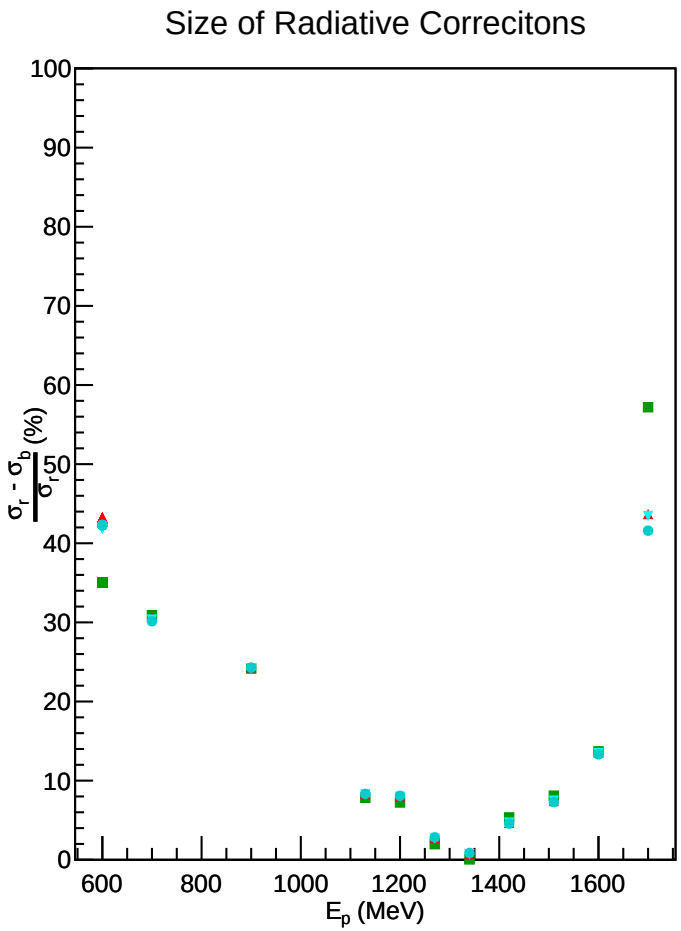




Interpolation Systematics (2)

5-pass Data





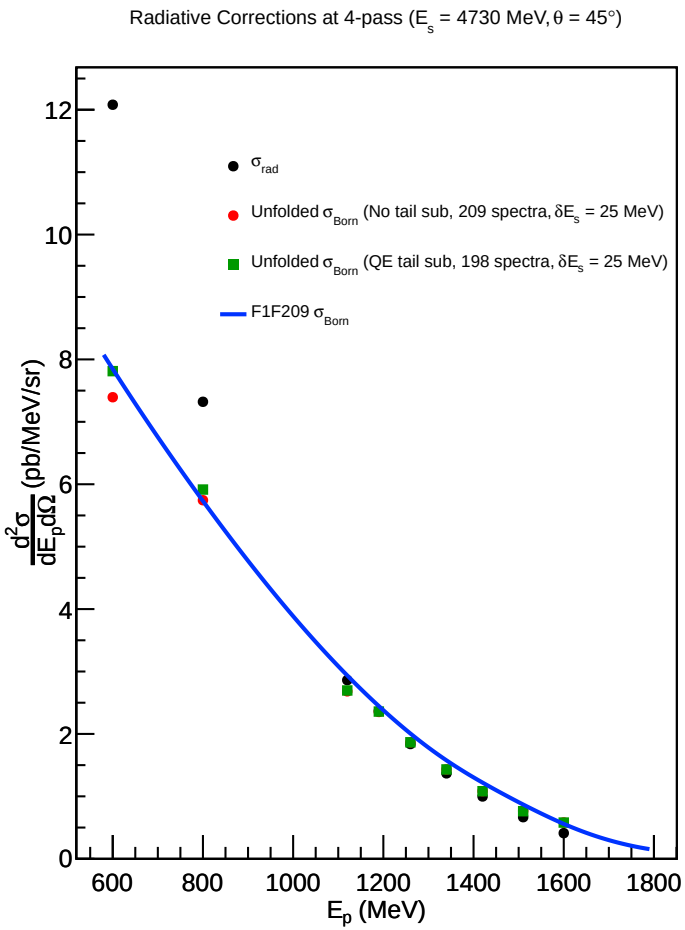
Comparison of the Two Methods (1)

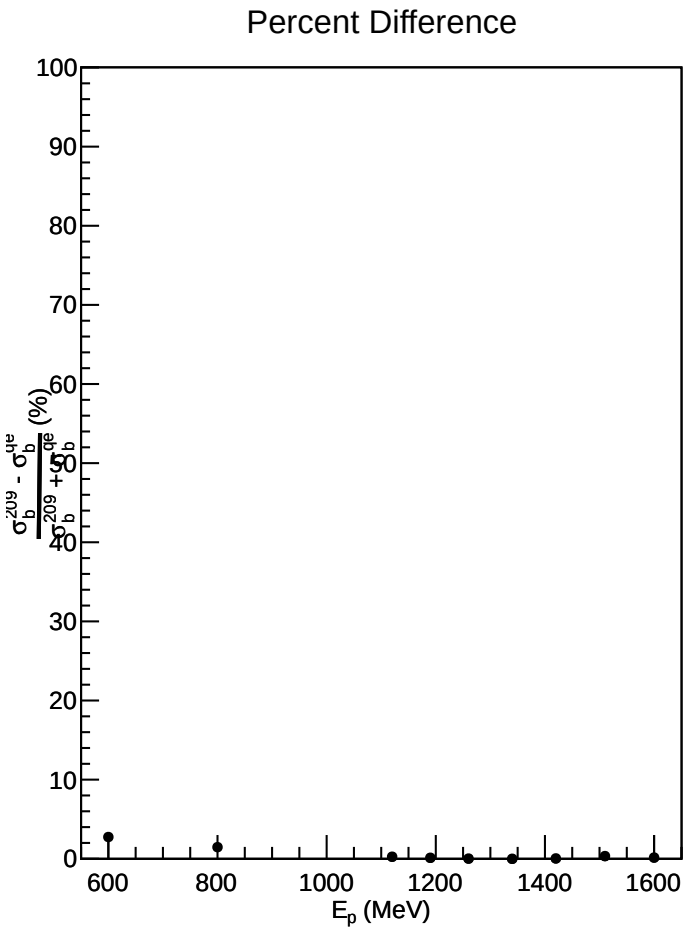
Description

- Review of methods:
  1. Subtract the QE tail (as calculated in ROSETAIL) and then unfold from the pion threshold
  2. Unfold from the elastic threshold
- Given how the unfolded results change with the number of spectra used in the interpolation, what happens if we change the number of spectra when integrating from the π threshold?
  - Use the same spacing in the E_s integral as seen in the elastic threshold results for 209 spectra
- In theory, we should get the same result...

Comparison of the Two Methods (2)

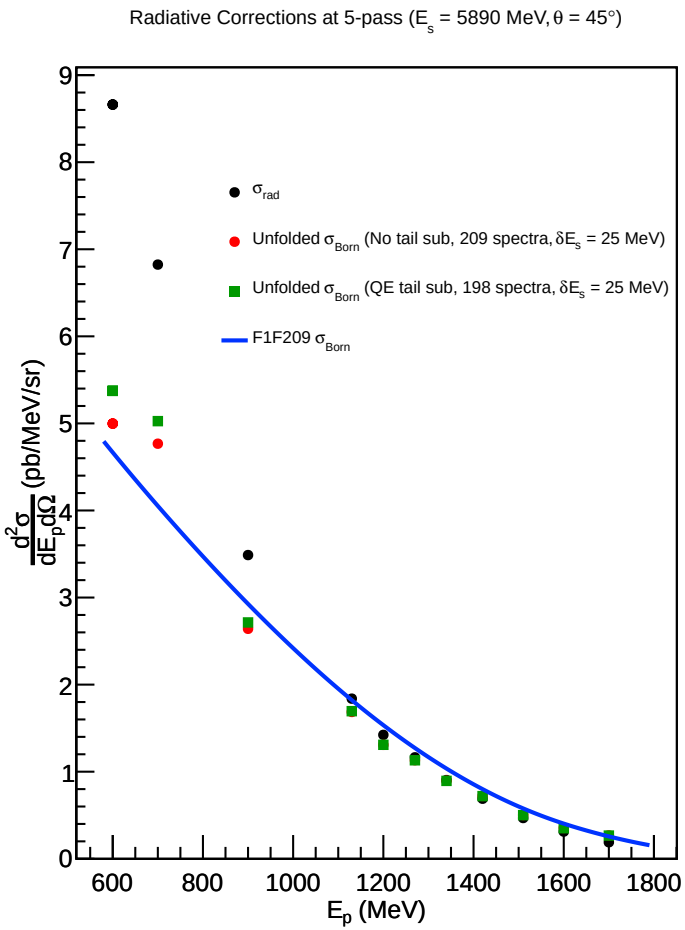
4-pass Data

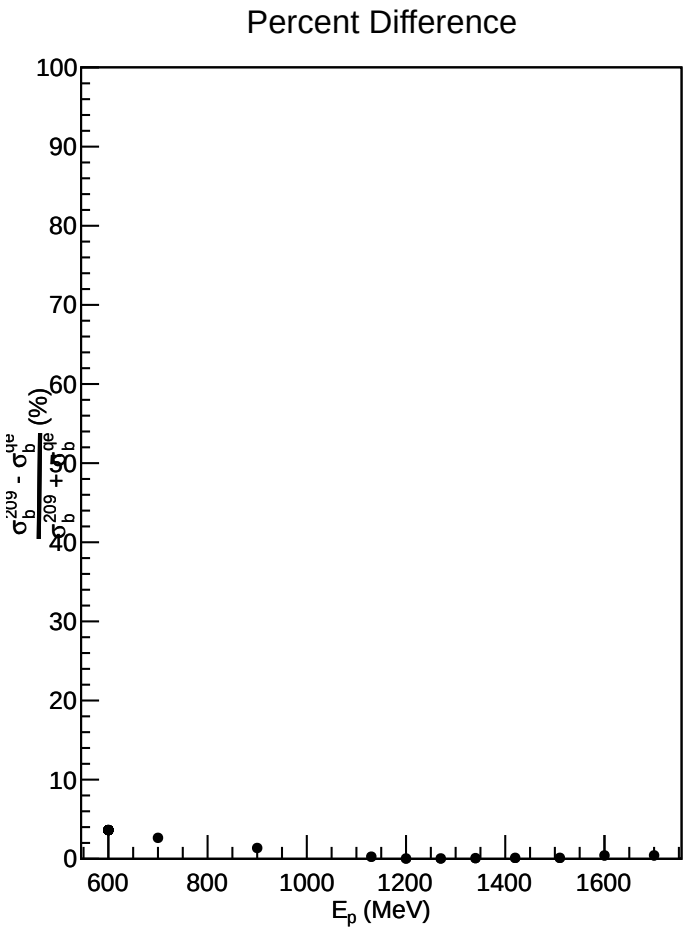




Comparison of the Two Methods (3)

5-pass Data





Summary and What's Next

- Unpolarized Radiative Corrections
  - Changing the number of spectra has an effect in the unfolding, tends to converge after $\sim$ 50 spectra...
  - The two methods of unfolding agree for most bins in E_p, with disagreement at the $\sim$ 3–4% level at the lowest bins in E_p
    - ★ Model dependence?
- Polarized Radiative Corrections
  - Getting closer on the C++ POLRAD version
  - Fortran version still needs work...
- What's next?
  - Investigate systematics of RADCOR interpolation method
    - ★ Model dependence
  - Continue work on POLRAD (C++/Fortran)