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Simple calculation of the Coulomb-nuclear corrections in pp and $\bar{p}p$ scattering

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We present a very simple method for calculating the mixed Coulomb-nuclear effects in the pp and $\bar{p}p$ scattering amplitudes, and illustrate the method using simple models frequently used to describe their differential cross sections at small momentum transfers. Combined with the pure Coulomb and form-factor contributions to the scattering amplitude which are known analytically from prior work, and the unmixed nuclear or strong-interaction scattering amplitude, the results give a much simpler approach to fitting the measured pp and $\bar{p}p$ cross sections and extracting information on the real part of the forward scattering amplitudes than methods now in use.

Mini Symposia (Invited Talks Only)

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