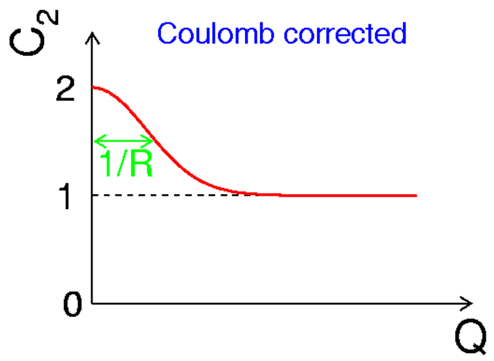
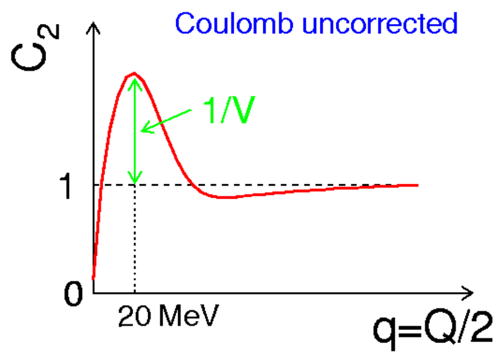
2–particle correlations

contributions from:

- quantum statistics
- Coulomb interactions (computable)
- strong interactions (S-wave scattering length, negligible for $\pi\pi$)

$\pi^{\pm}\pi^{\pm}$ p p





formalism well developed for identical pion correlations
differential measurement of $C_2(Q, K)$ yields information on:

$$T_{fo}, \beta_\perp, R, \tau_0, \Delta\tau$$

interpretation less direct for

- pp correlations
- unlike particle pairs (new NA49 data on πp), sensitive to spatial/temporal source difference

measurement: $C_2 = \frac{N^{pair}(Q,K)}{N^{mix}(Q,K)}$