Charge Fluctuations Paper

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I Outline

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Fluctuations of electric charge in central Pb+Pb collisions at (20,) 30, 40, 80 and 160 *A*GeV

Introduction

Why? - may provide signal for QGP-creation

But - biasing effects: impact parameter fluctuations
charge conservation

Suitable observable: $\Delta\Phi_q$

Experimental Set-up

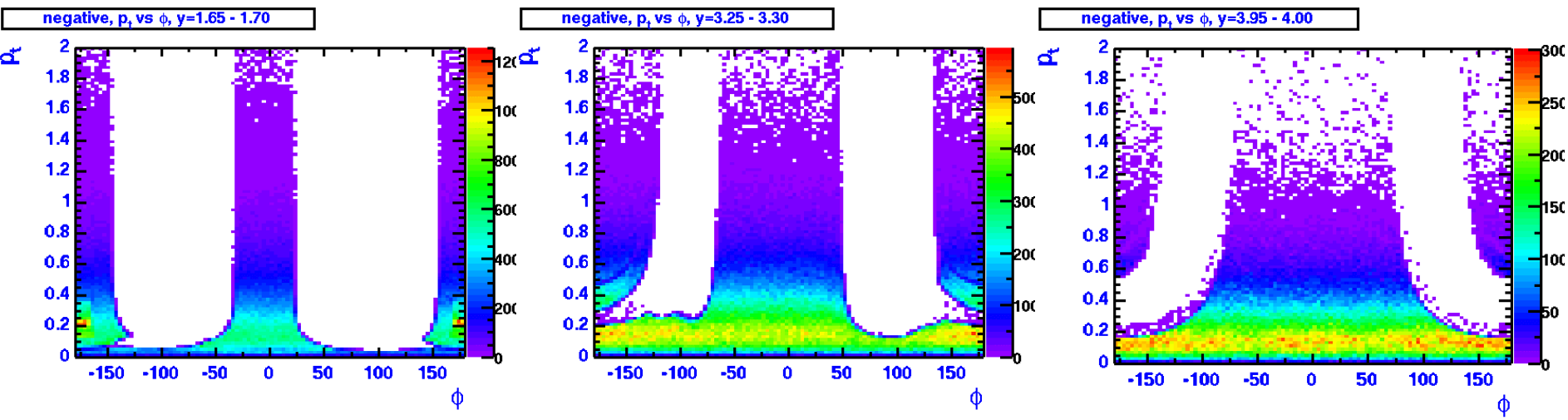
- short description

Data selection and analysis

used data sets: energy, centrality

event and particle selection: event- and track-cuts

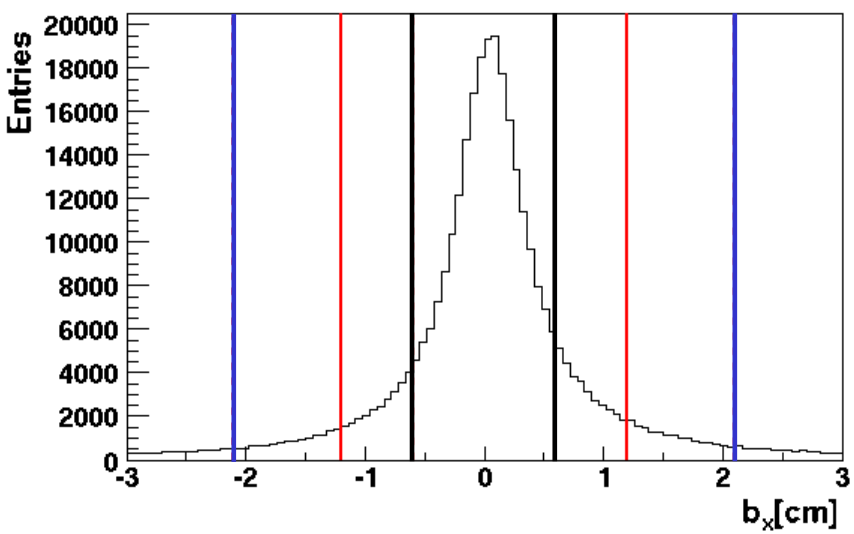
p_t vs. ϕ acceptance not finished yet

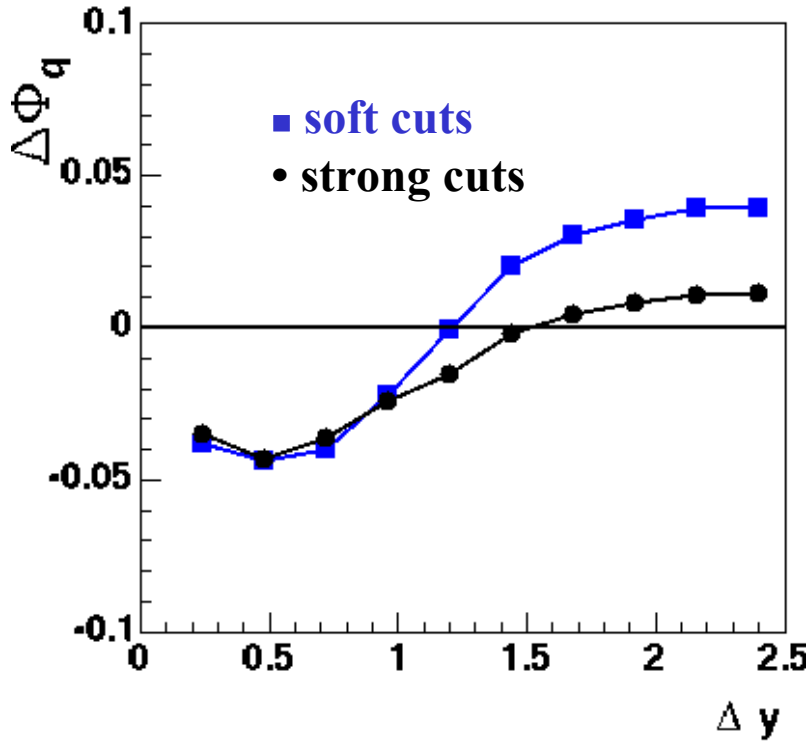


Data selection and analysis

systematic error:

comparison of $\Delta\Phi_q$ for two different cut-sets



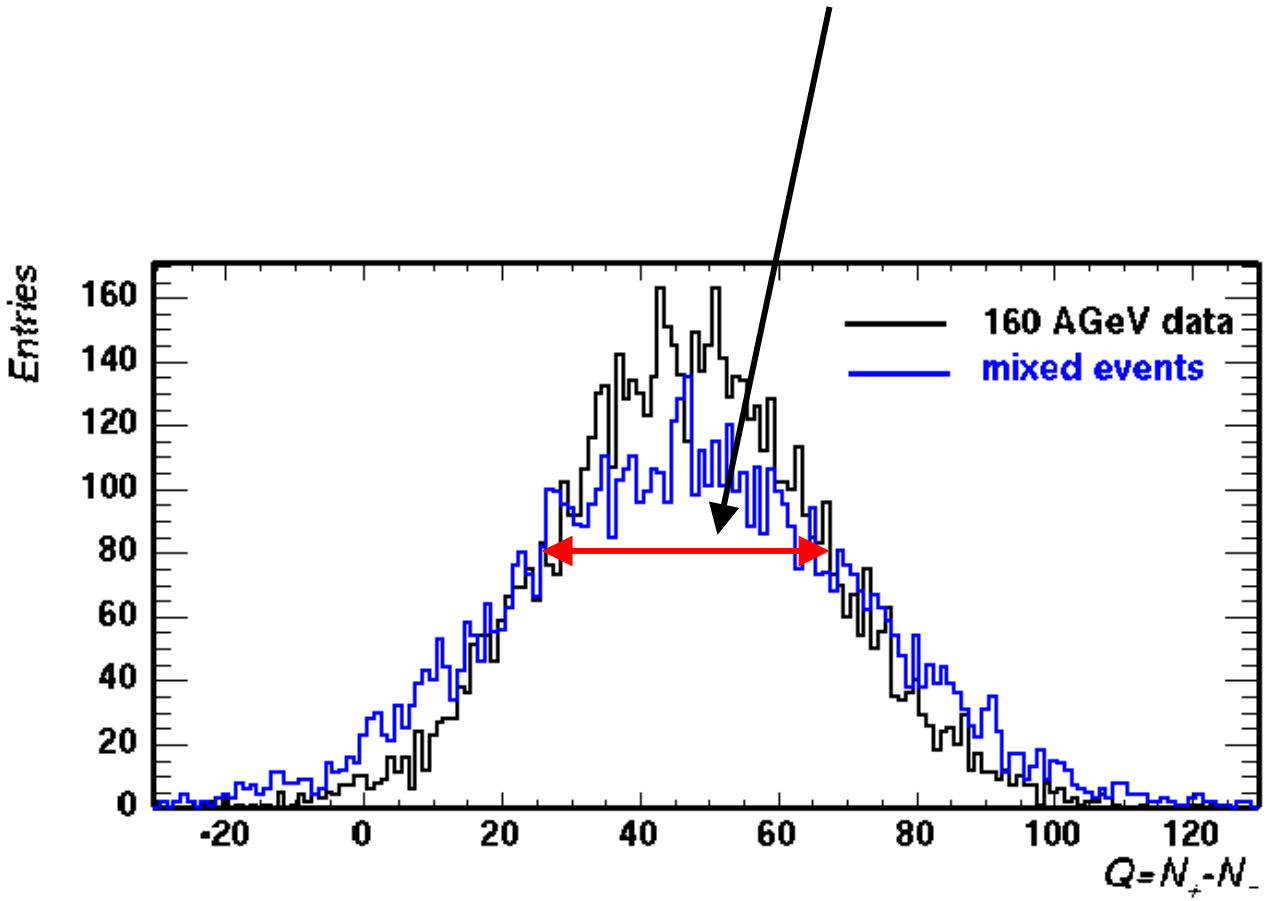


statistic error:

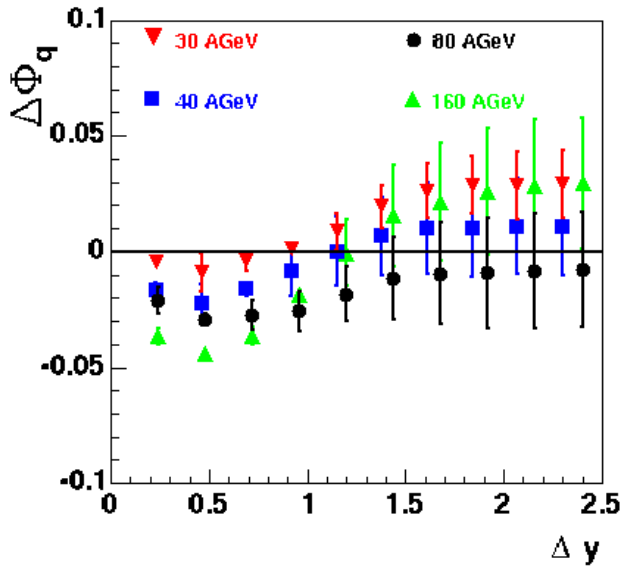
calculating $\Delta\Phi_q$ for 10 subsets of events

Results

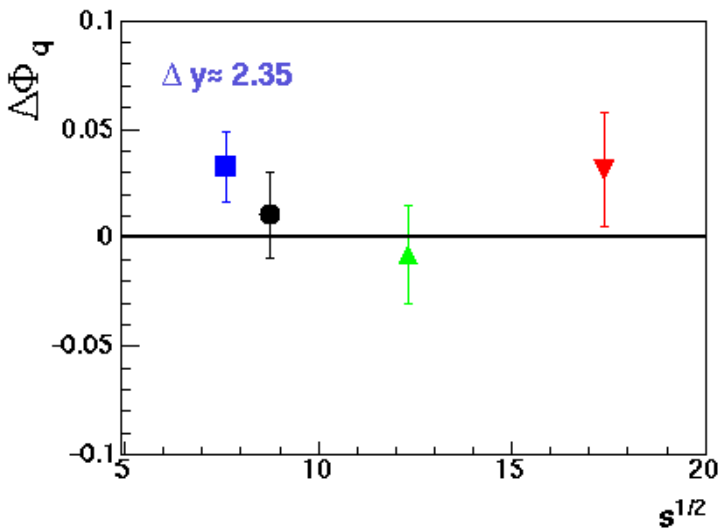
to illustrate: distribution of net-charge

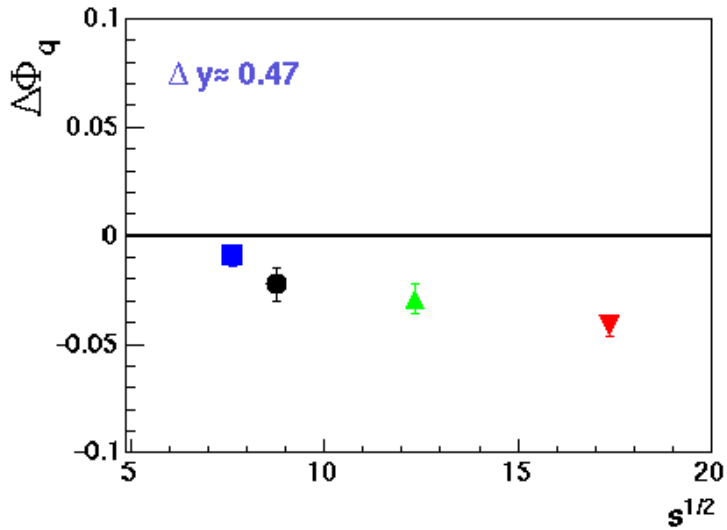


Results

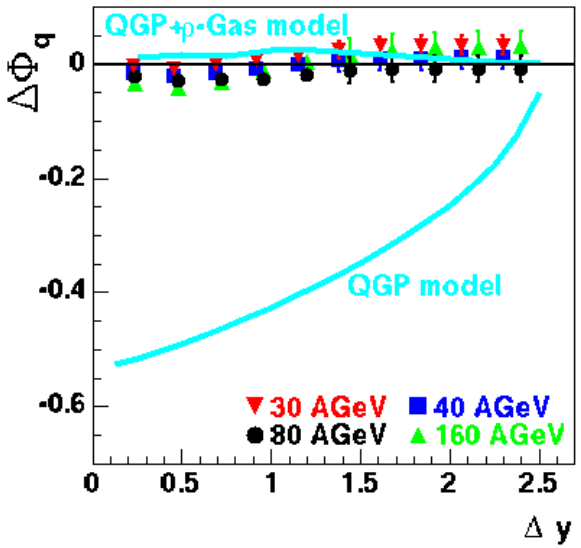


- no strong fluctuation suppression observed
- weak energy dependence
- additional short-range correlation at small *y*-interval





Discussion and Conclusions



comparison with QGP- and QGP+ρ-gas model

- resonances decay may strongly increase fluctuations
- at SPS-energies QGP-correlations are not observable

Time scale

- within two months almost final version