Emittance measurement using Schottky

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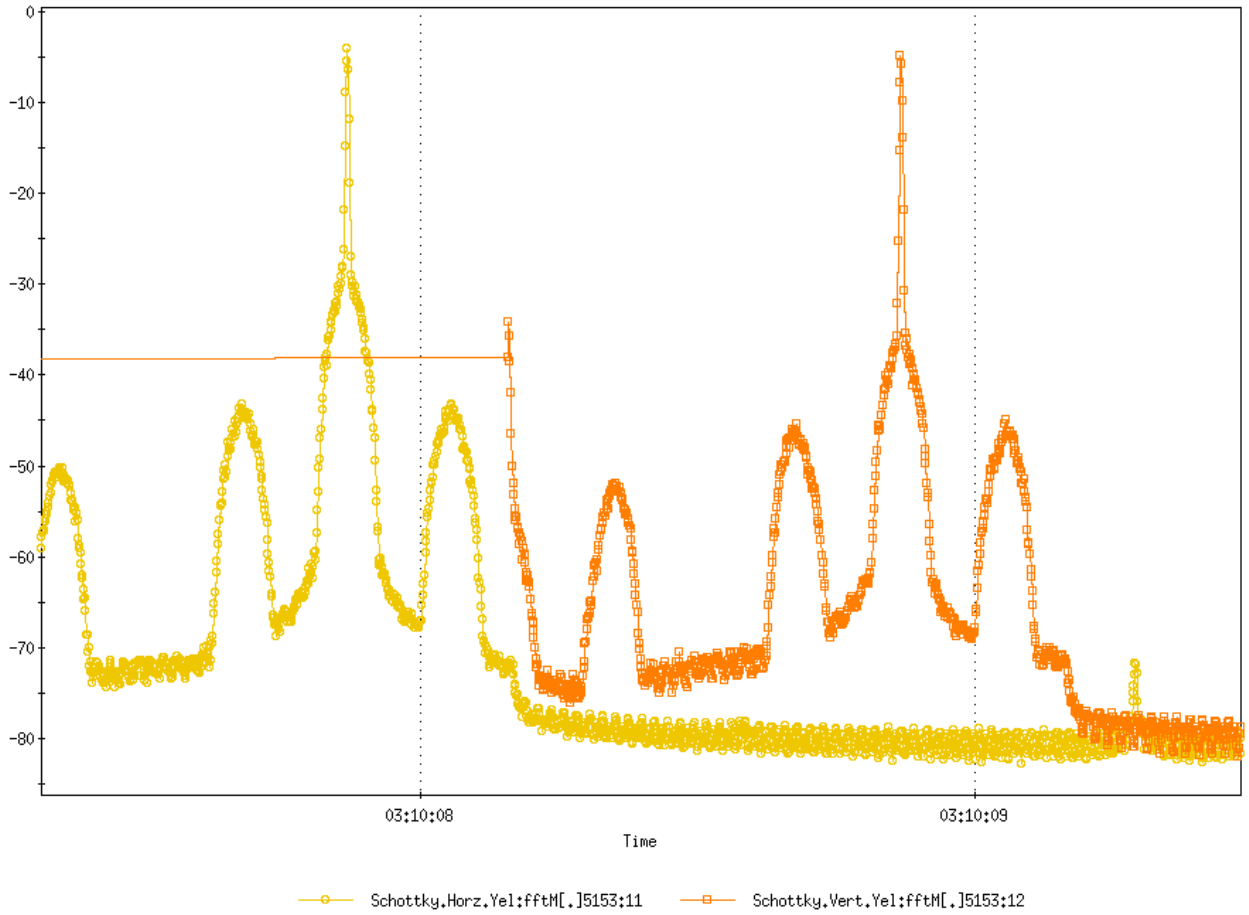

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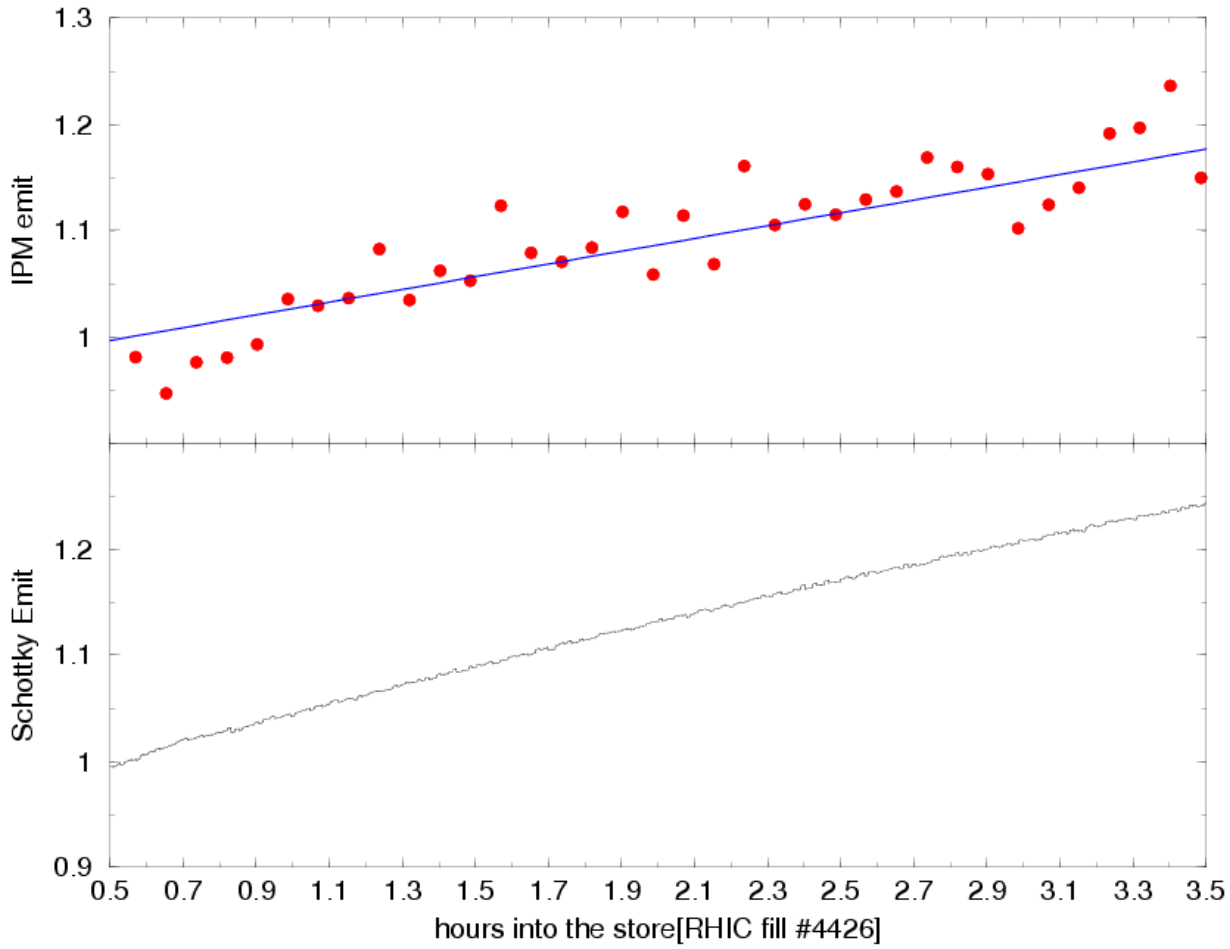

Encouraging results from rhic_pp_fy04

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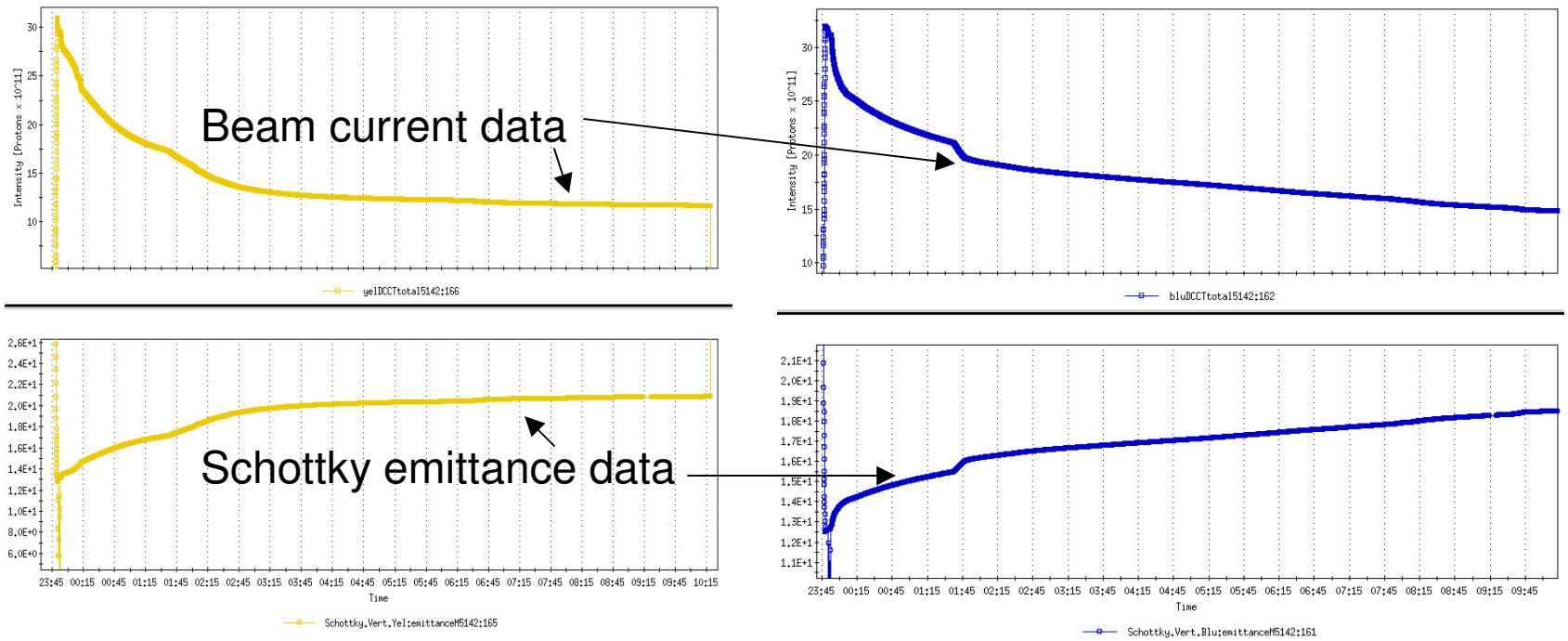

But,

- The slope of the Schottky rms emittance ≠ The slope of the IPM emittance
- suspicious correlation between the Schottky rms emittance data and the beam current data

Emittance measurement using Schottky

- Goal of the experiment:
  - to crosscheck the Schottky rms emittance measurement against the IPM measurement. A relative calibration between the two methods of emittance measurement is also expected to be obtained

- Description of the experiment
  - measure the rms beam emittance with Schottky and IPM
  - use the RHIC ac dipole to blow up the beam by operating the ac dipole in a non-adiabatical mode
  - measure the rms beam emittance with Schottky and IPM after the beam blow-up and repeat this for multiple times to complete the data set