Report on B asymmetry

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Oxford
February 2003

Contents

- Jet charge optimisation
- BTAG working point study
- BTAG systematic study

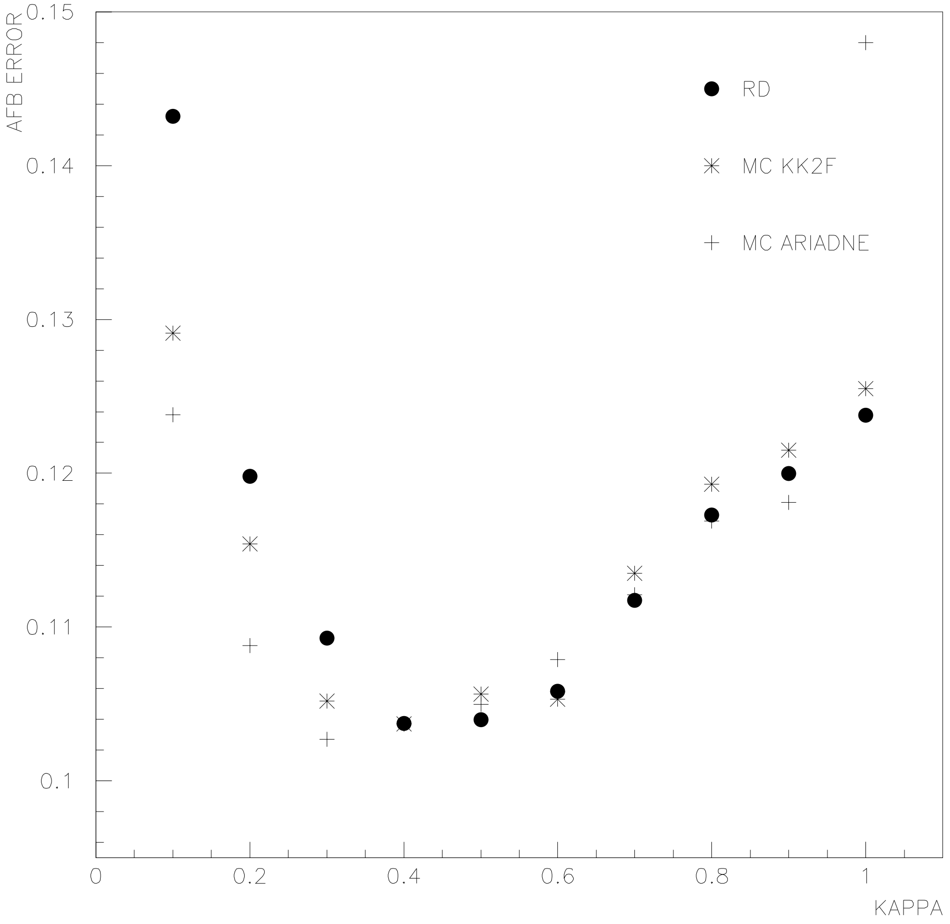
Search for best kappa value

- Study the stat. error against jet charge kappa.
- for MC and RD.

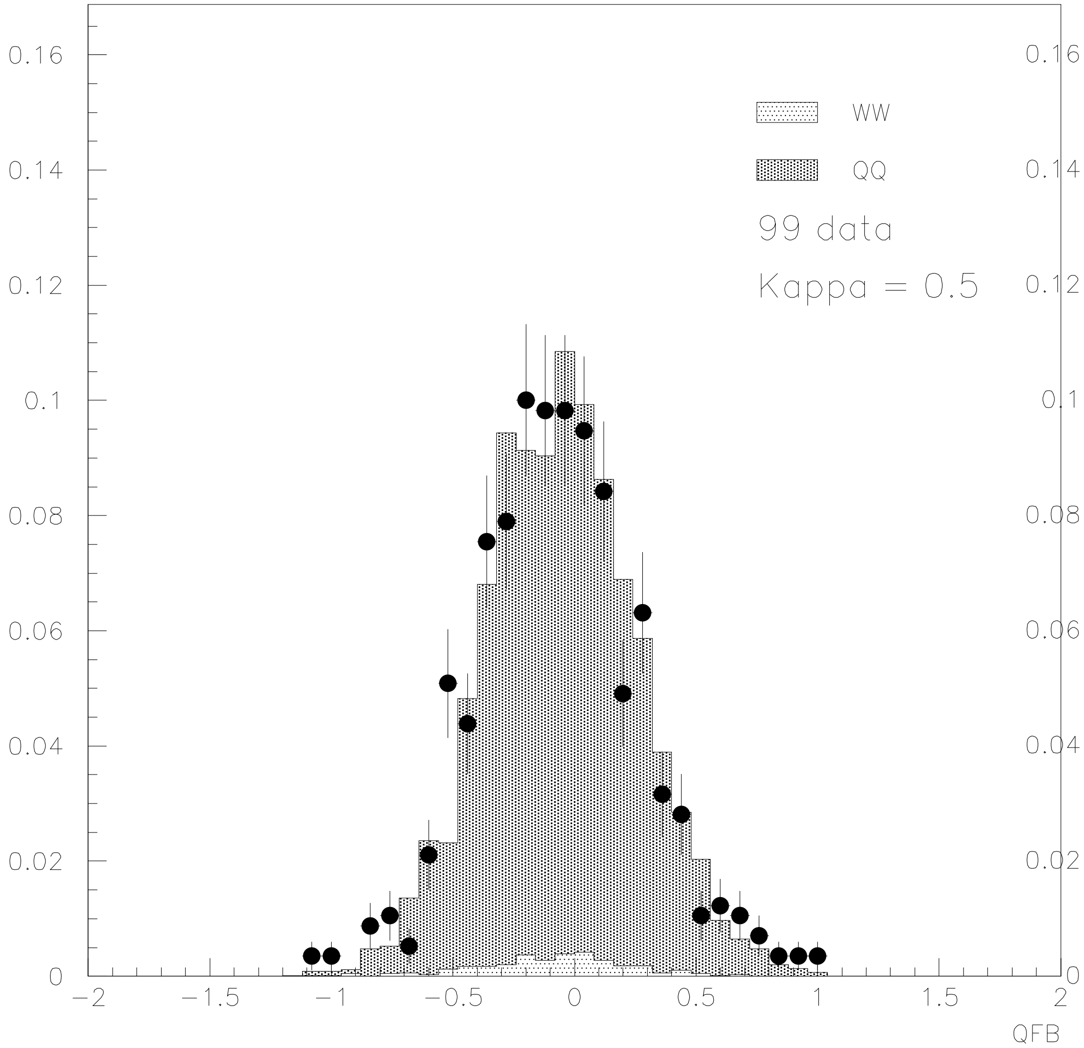
$$Q_{F(B)} = \frac{\Sigma_i \left|p_i \cdot \hat{n}\right|^{kappa} q_i}{\Sigma_i \left|p_i \cdot \hat{n}\right|^{k}} \qquad (1)$$

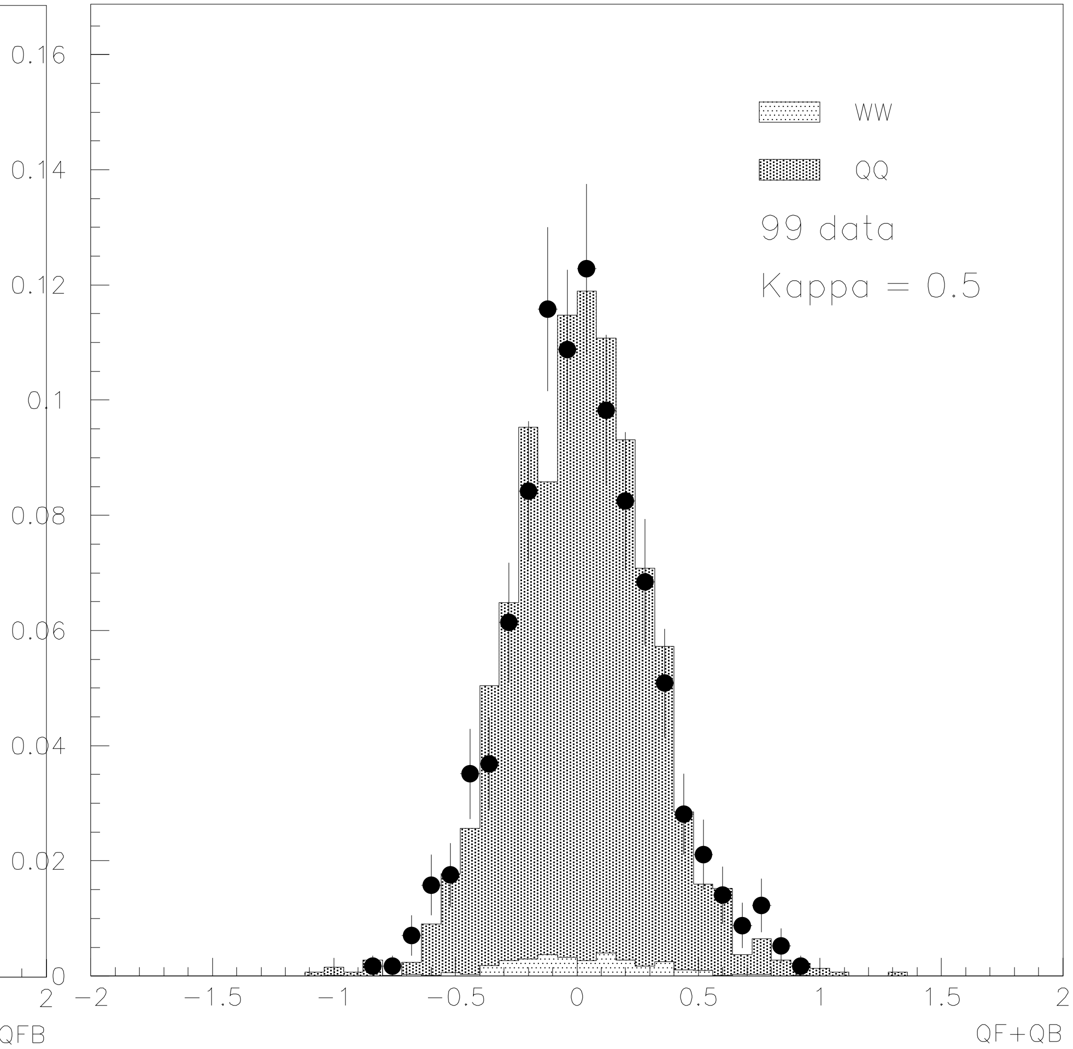
p_i is the track's momentum
$\hat{n}$ is the thrust axis

Kappa vs statistical AFB error (99)

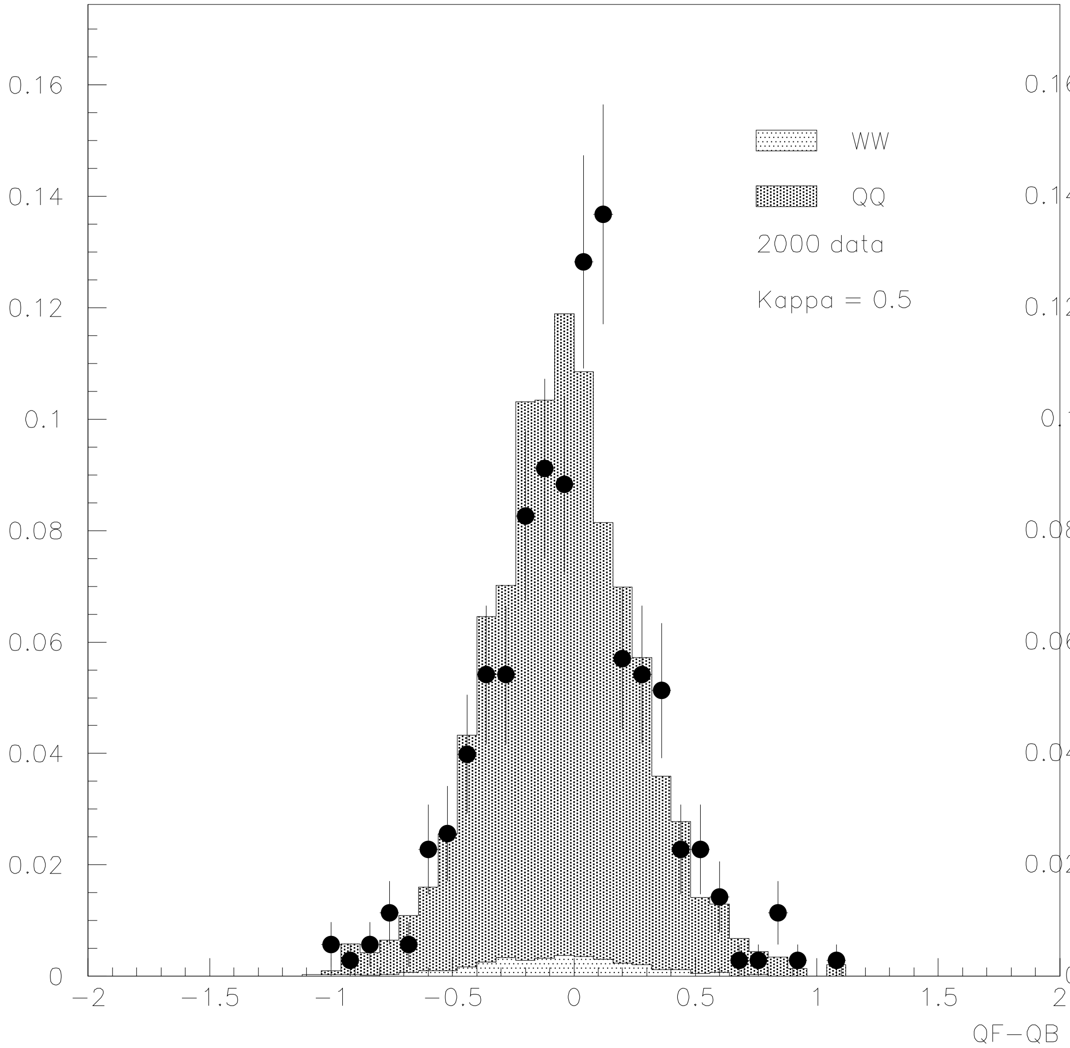


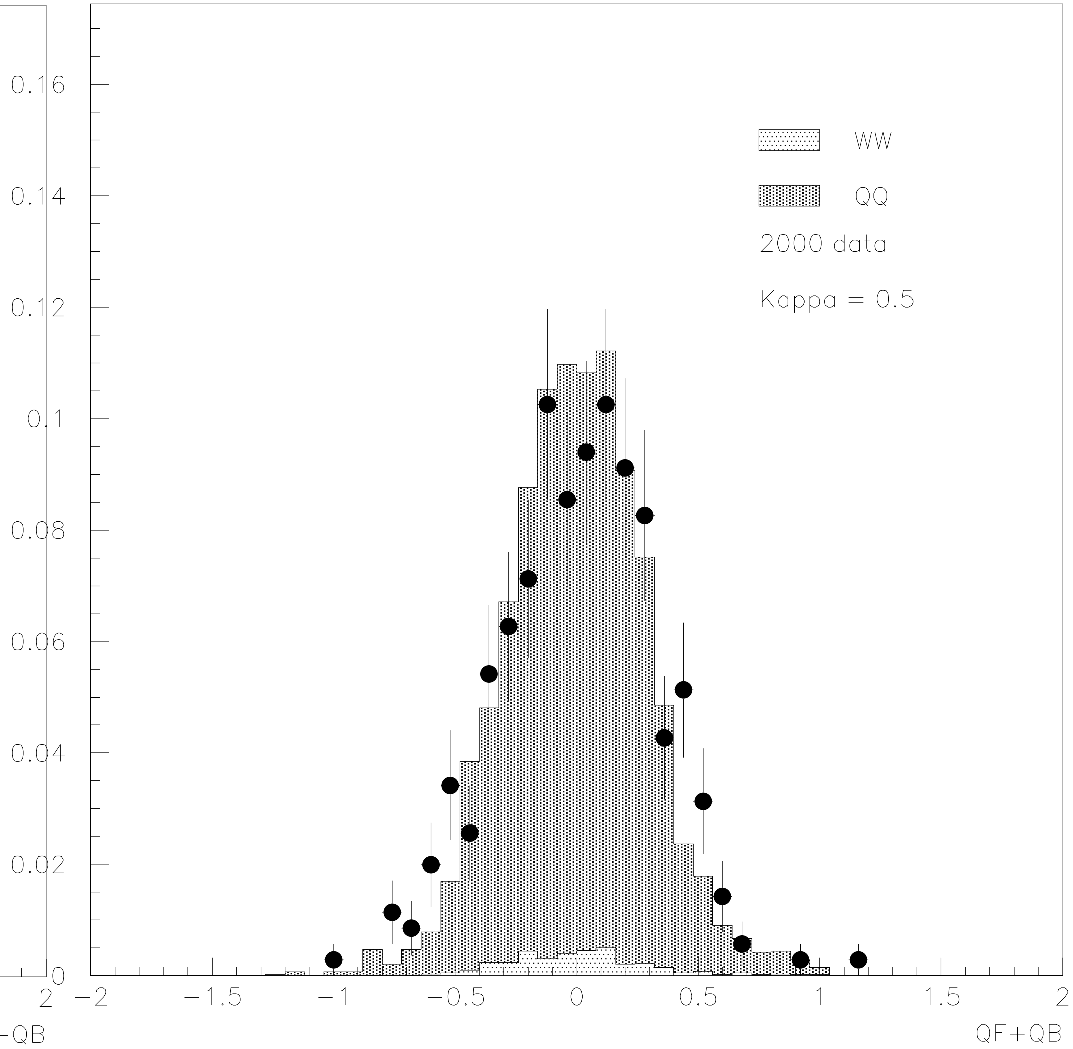
Jet Charge, 99 data (normalized to events)



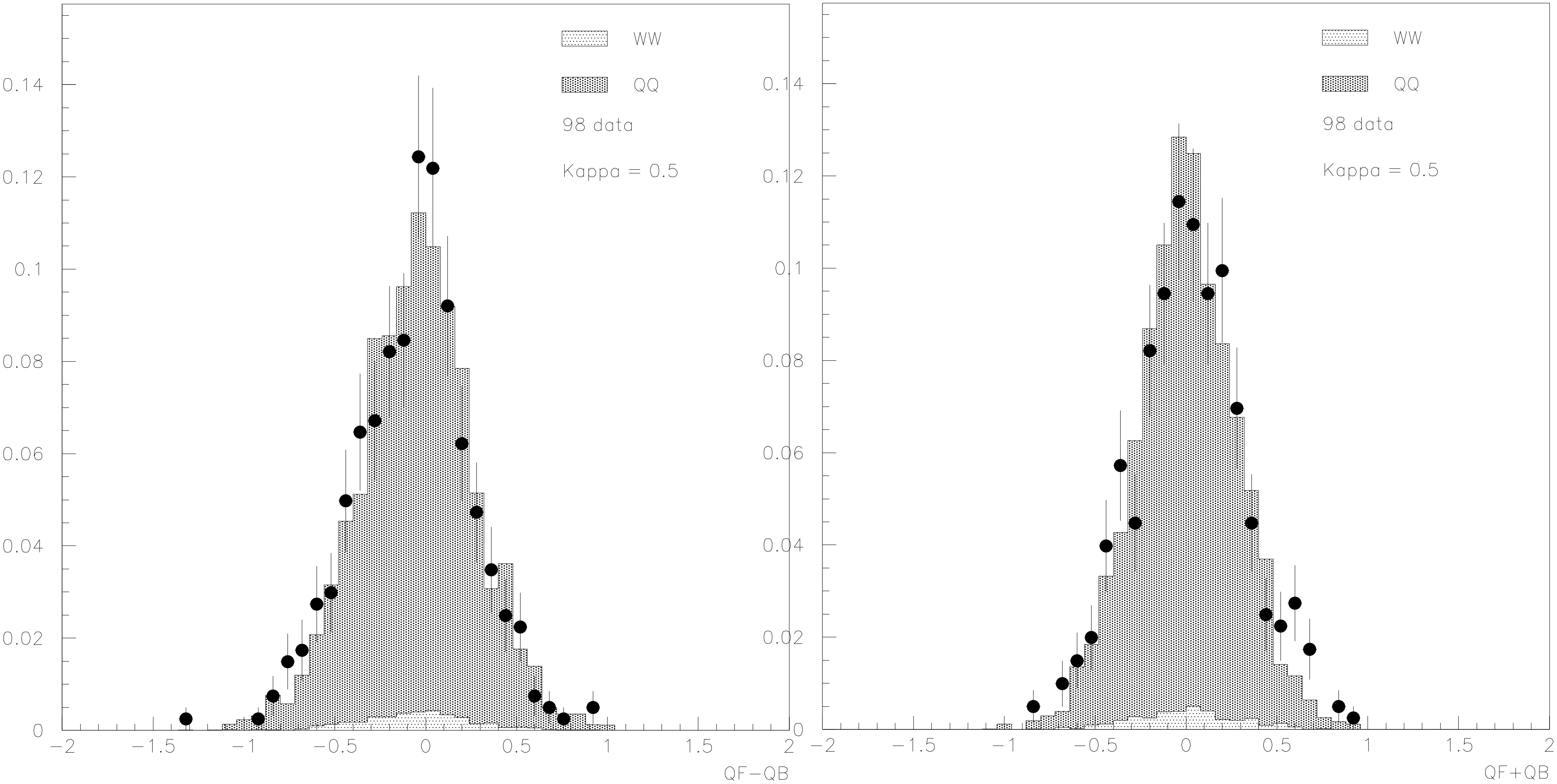


Jet Charge, 2000 data (normalized to events)

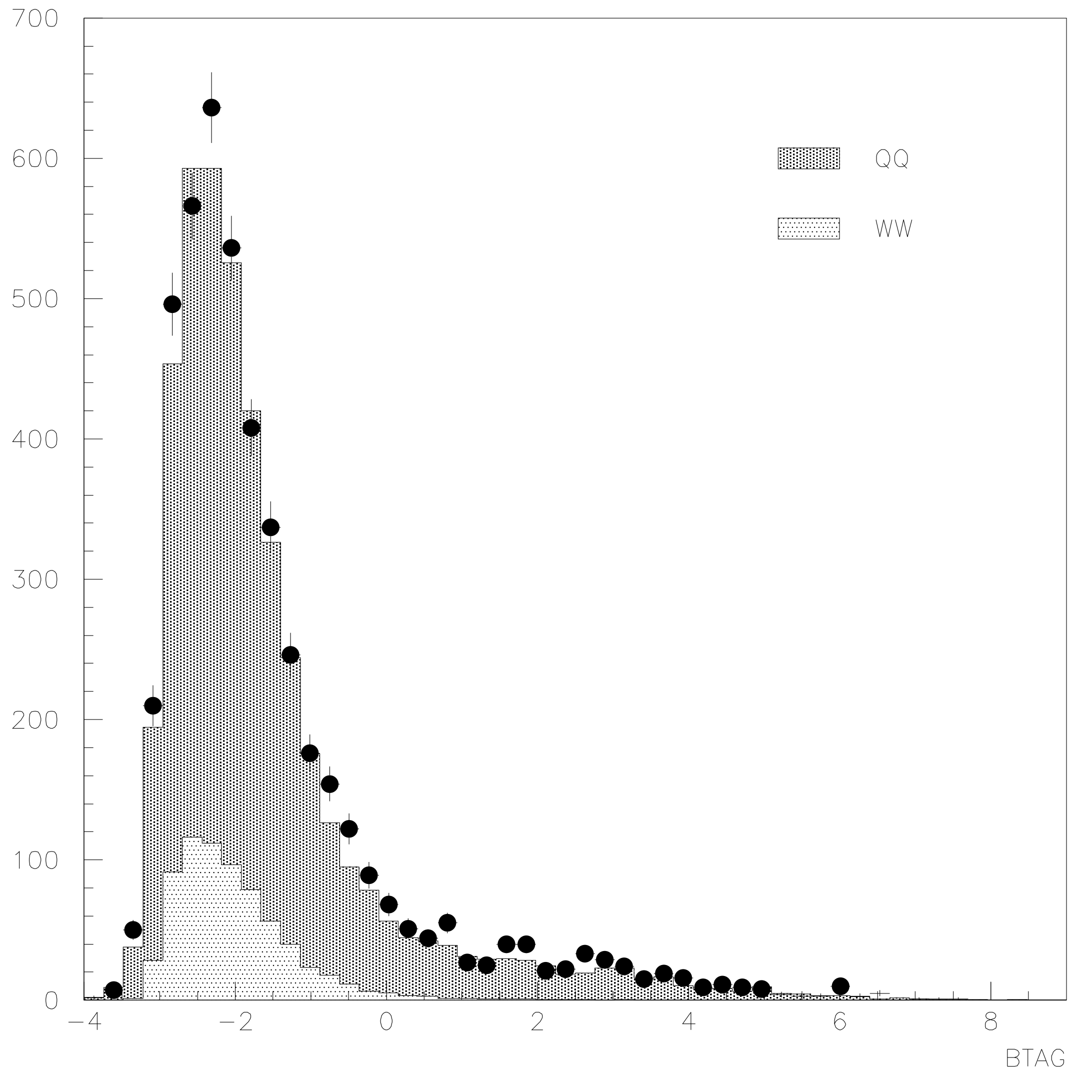




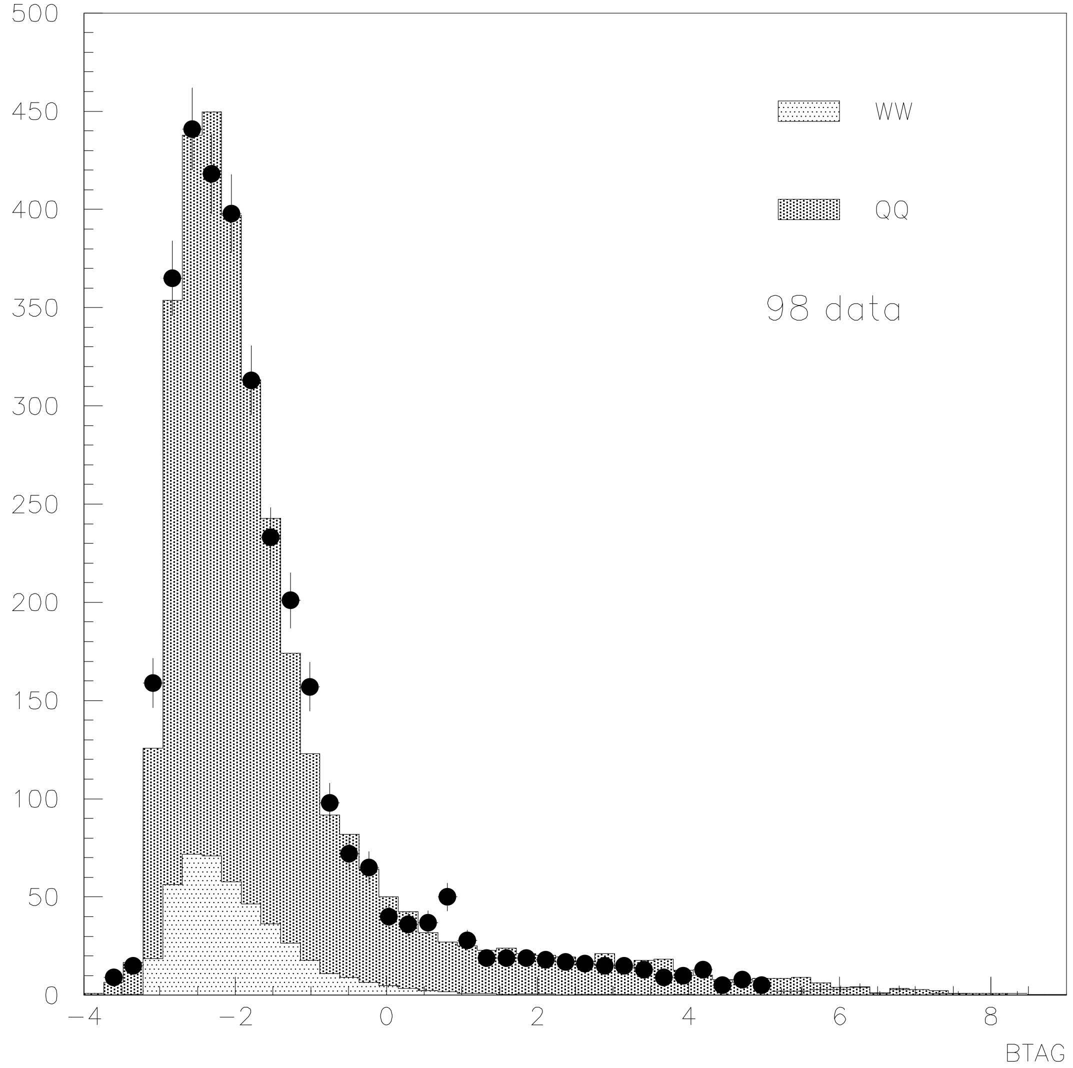
Jet Charge, 98 data (normalized to events)



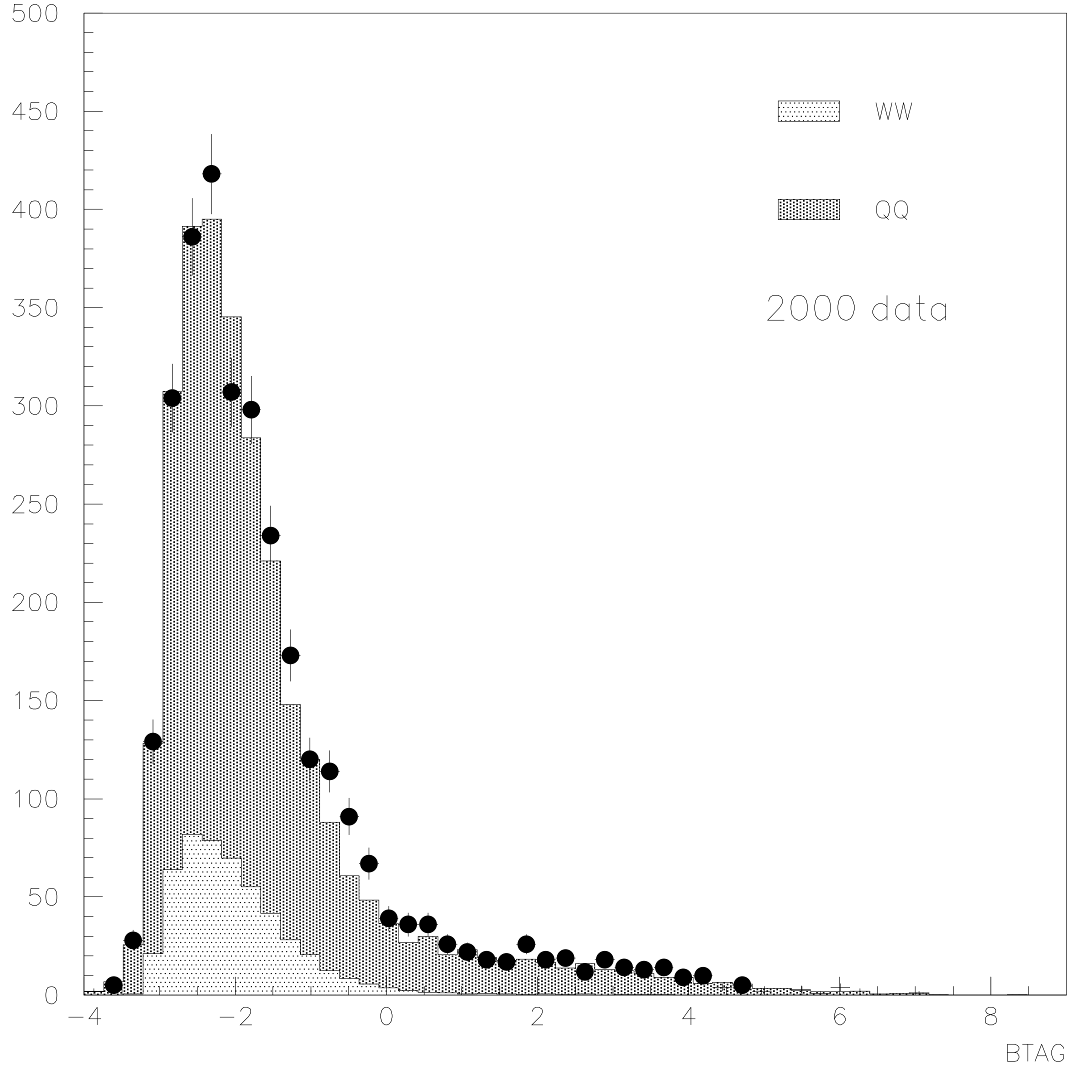
BTAG , 1999, normalized to luminosity



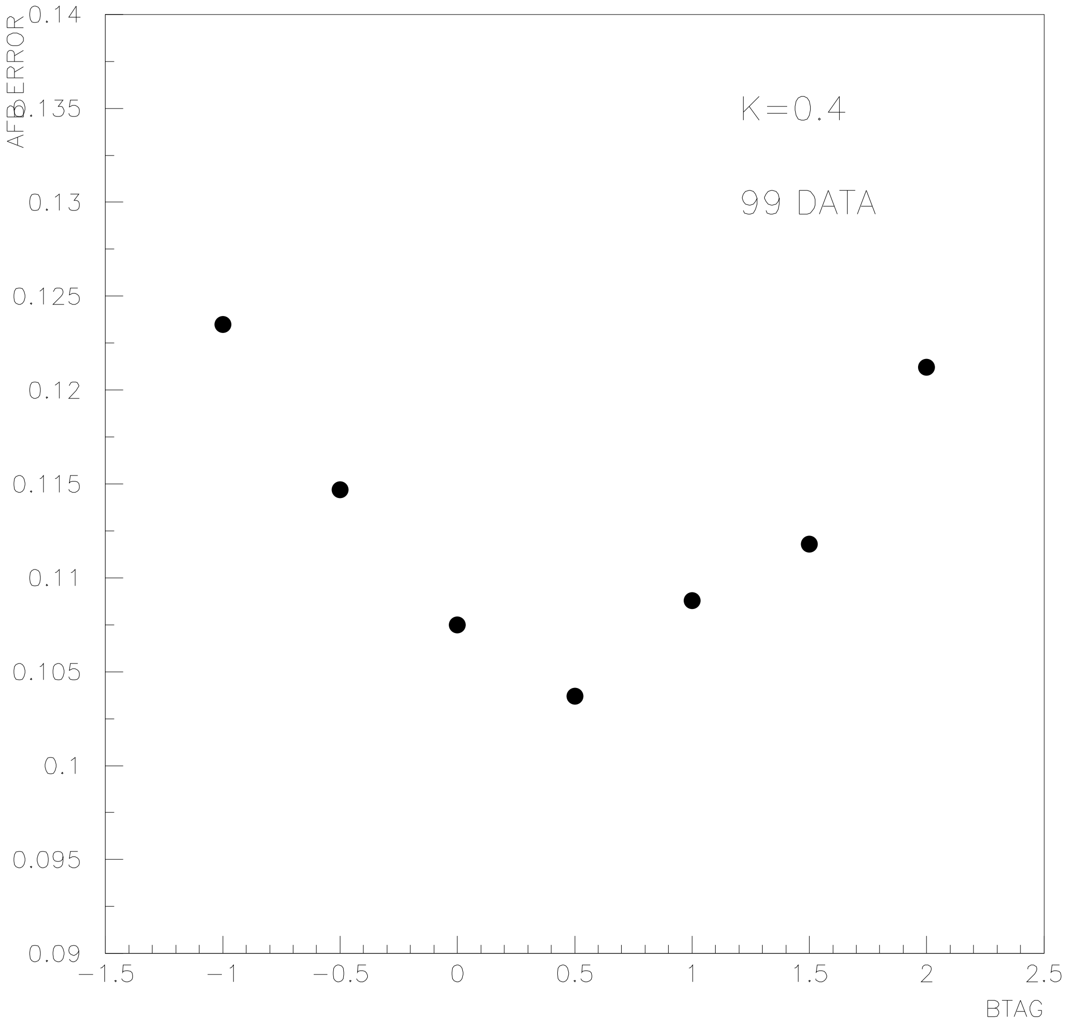
BTAG , 1998, normalized to luminosity



BTAG , 2000, normalized to luminosity



BTAG vs statistical AFB error



same shape for other years

BTAG SYSTEMATIC ERROR STUDY

BTAG point	0.0	0.5	1.0	1.5
STAT. ERROR	0.108	0.104	0.11	0.116
BTAG SYST.	0.082	0.064	0.05	0.046
COMBINED ERROR	0.135	0.122	0.121	0.124

Summary and Next step

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