

# Astrophysics Perspectives

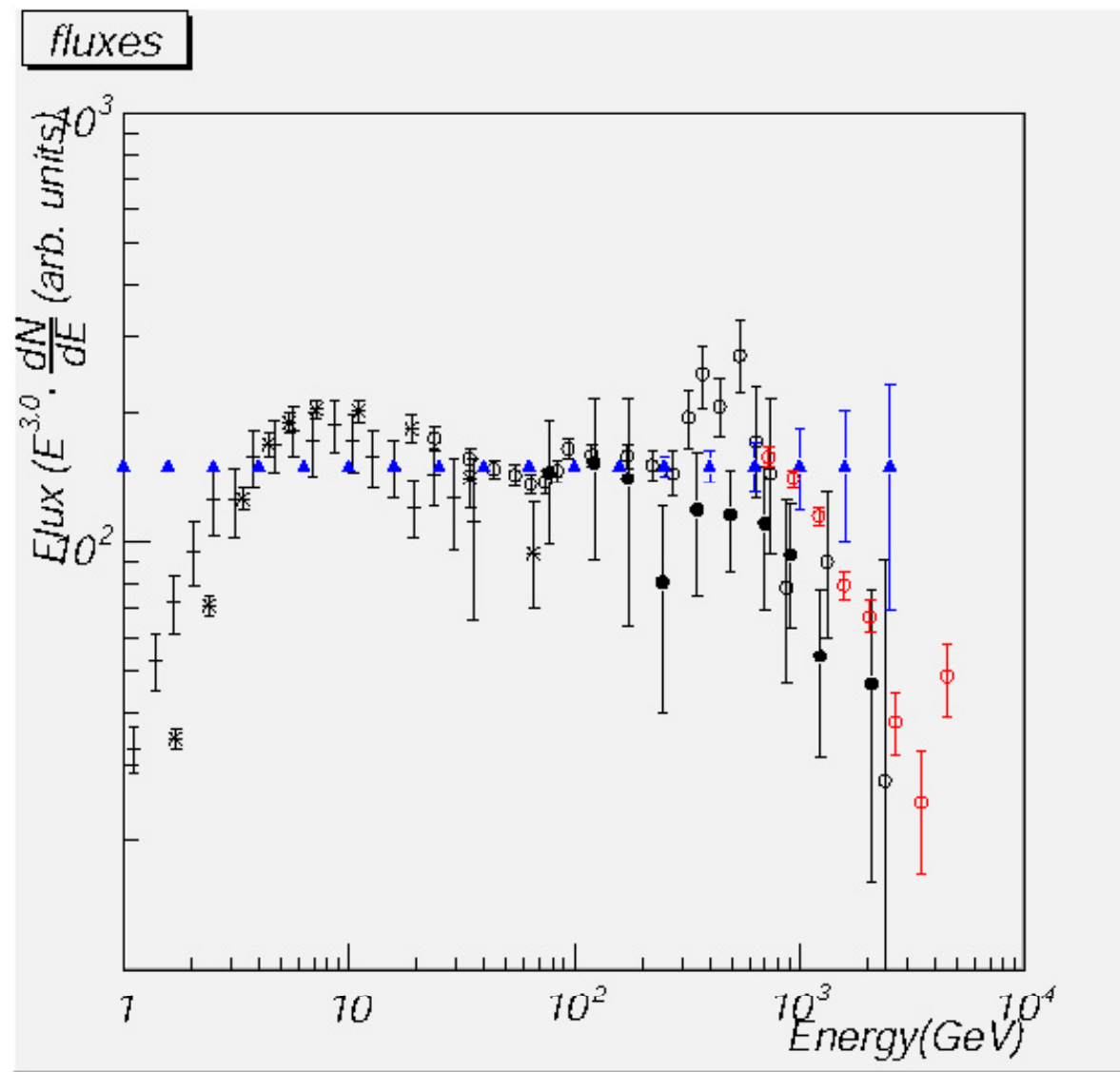
Simon Swordy - University of Chicago

27th Jan 2009, PEBS meeting, CERN

# Science Themes

- Measurement of positrons
- Measurement of all electrons
- Measurement of antiprotons
- Measurement of He<sup>3/4</sup> and B/C

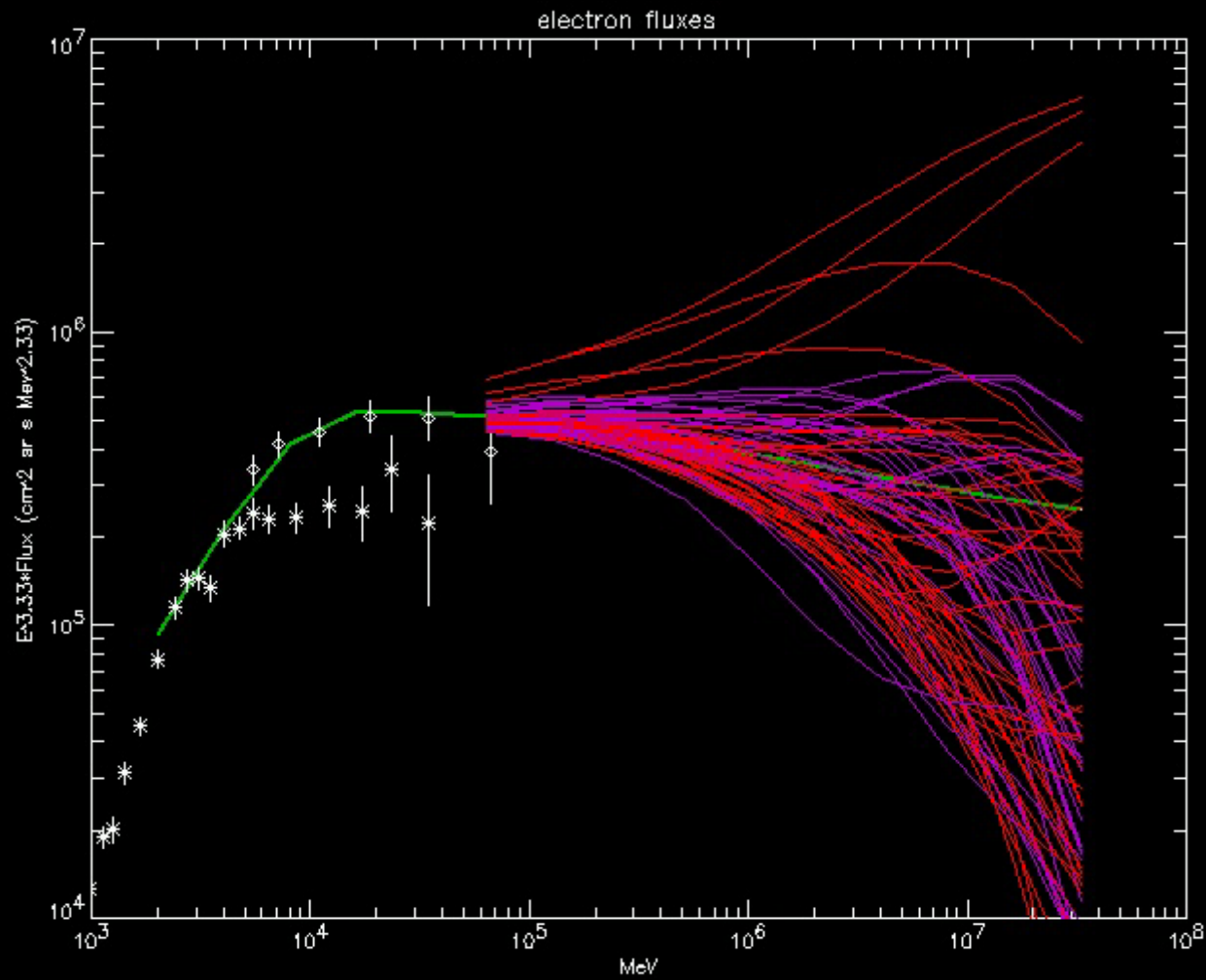
All electrons (5m<sup>2</sup> sr days)



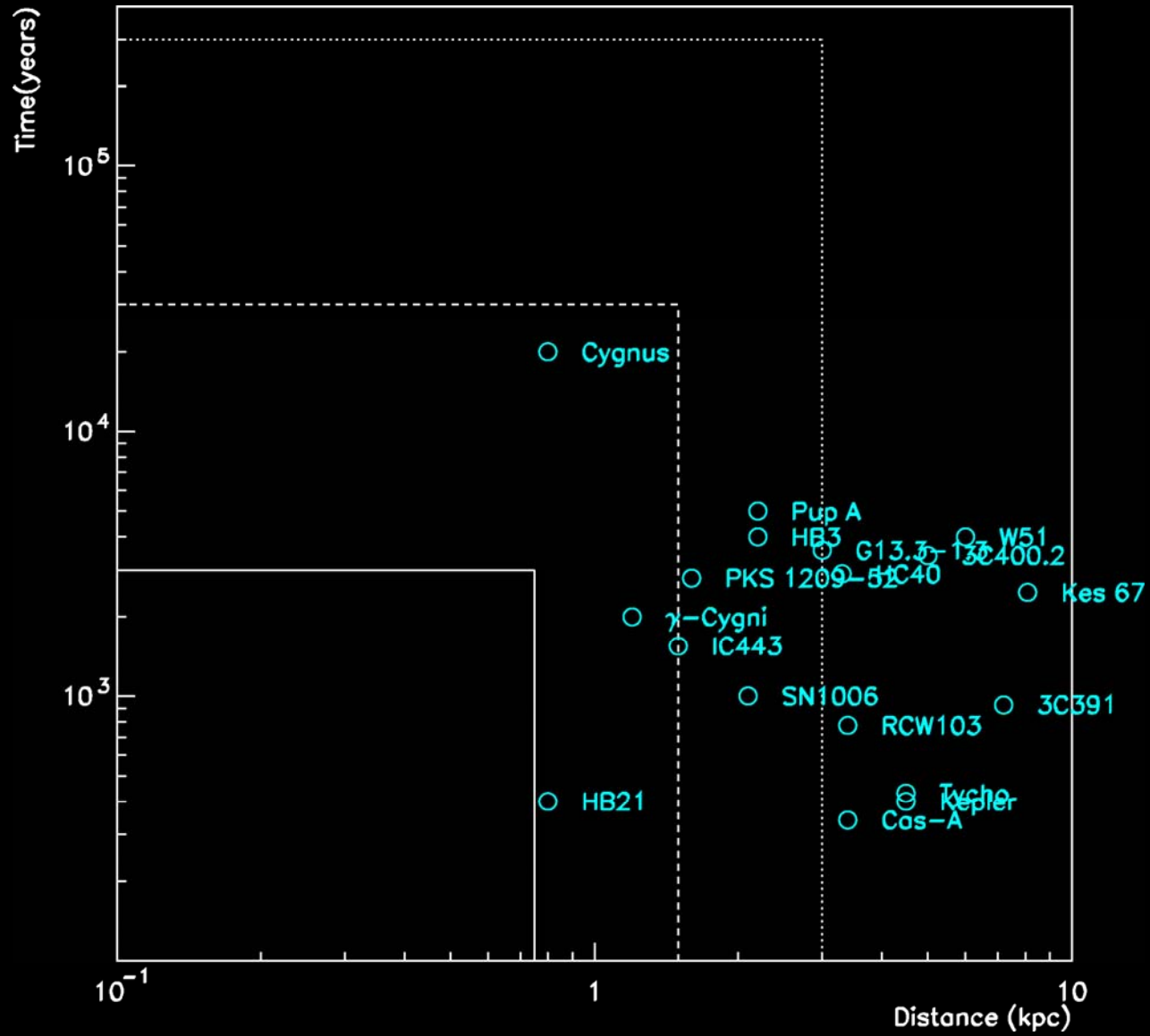
Electrons  $\sim 1\text{GeV}$

Electrons  $\sim 100\text{TeV}$

# Calculations of variations in $e^-$ Coupled with local SN/plerion activity



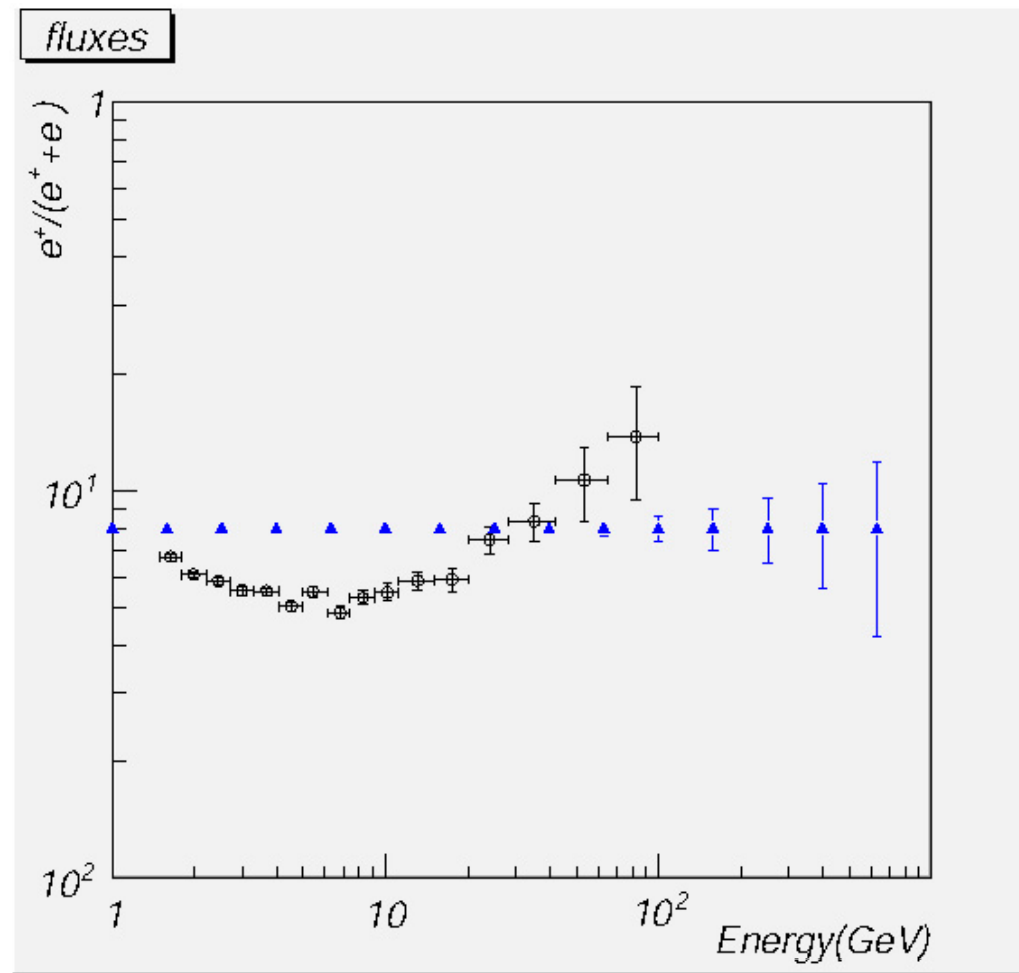
# Potential Sources of Energy Electrons



Potential PEBs *statistics* based on an exposure of 5m<sup>2</sup>sr days  
(e.g. 2500 cm<sup>2</sup> sr x 20days, or 4000 cm<sup>2</sup> sr x 12.5 days)

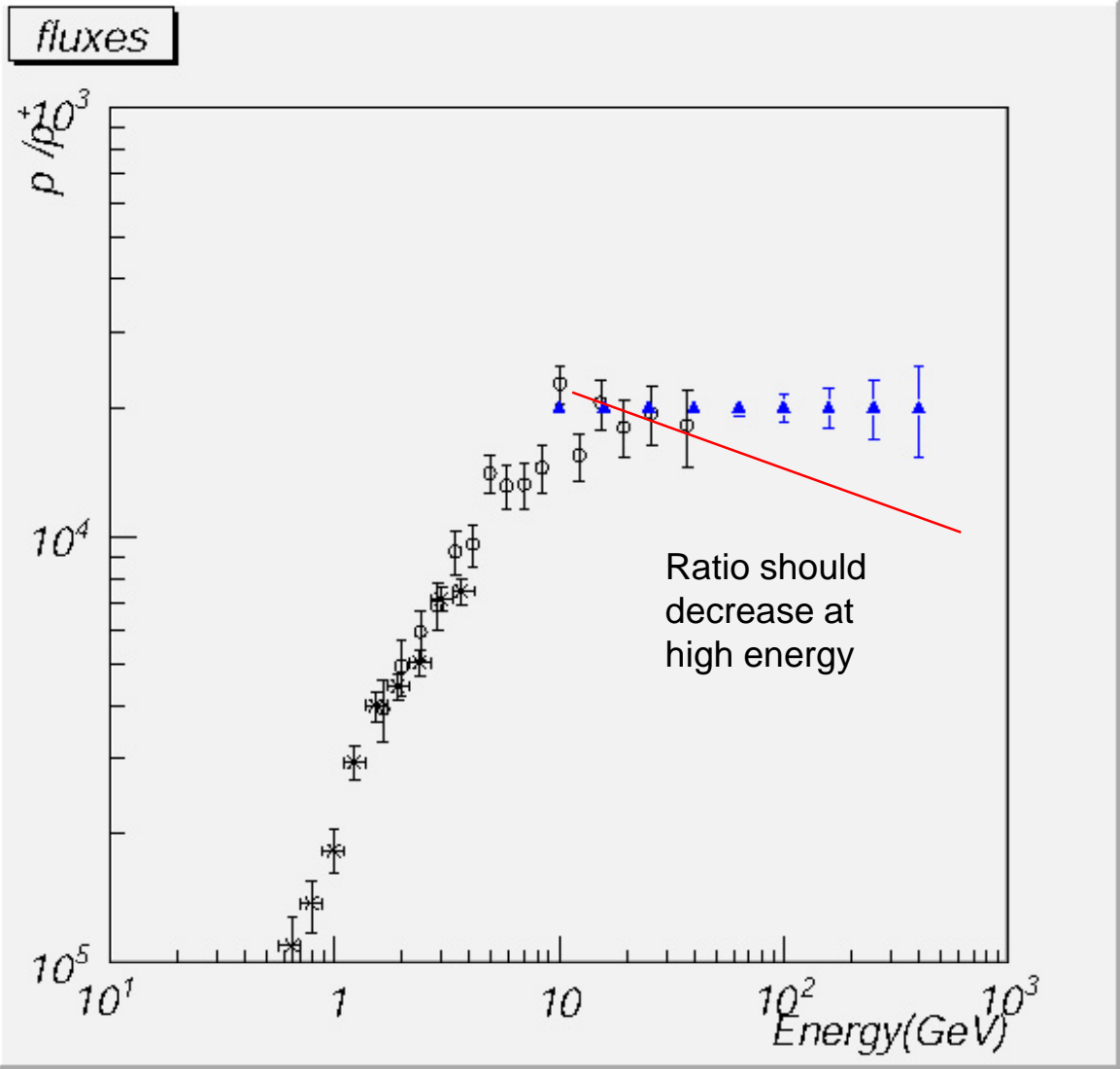
PEBS potential in blue

Positron ratio

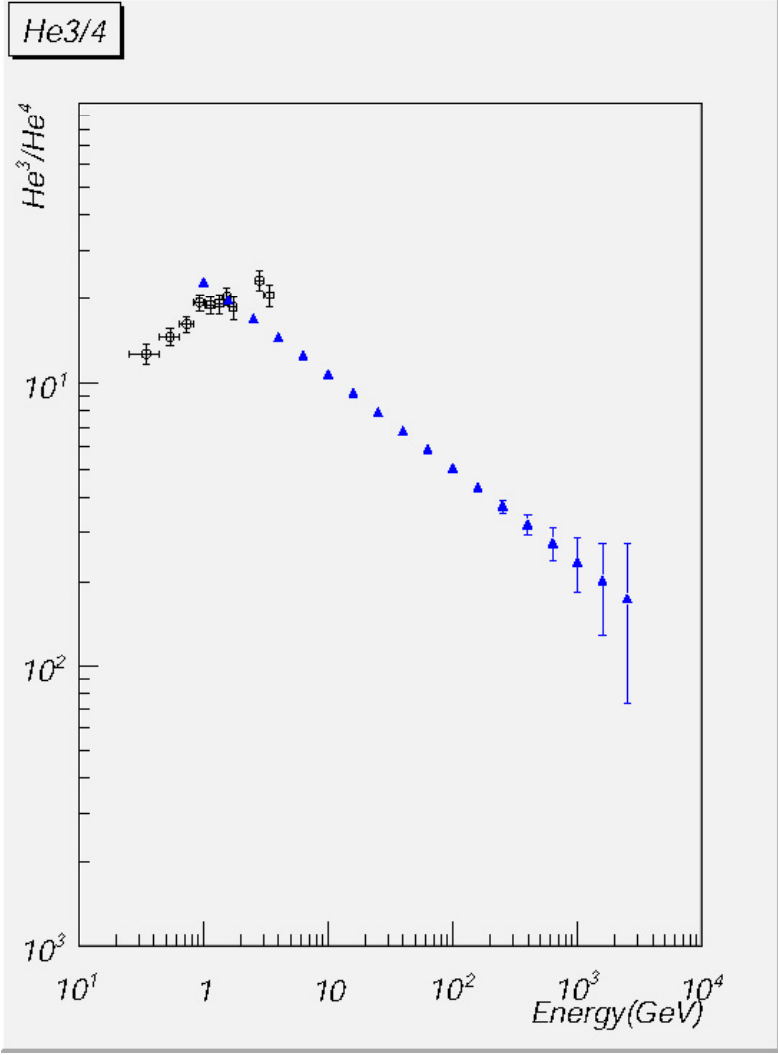
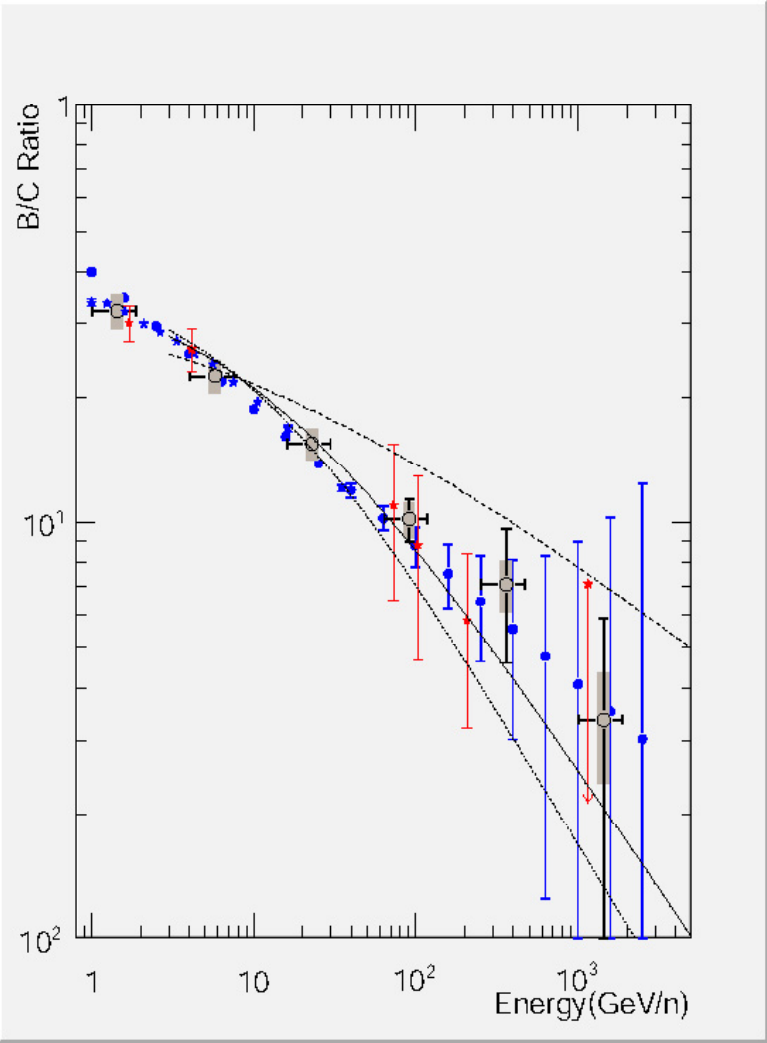




# Antiproton/proton ratio



Secondary nuclei (blue - potential PEBS)  
Are these consistent? (reacceleration, etc)



Note: high stats from He3/4 at 100GeV/n