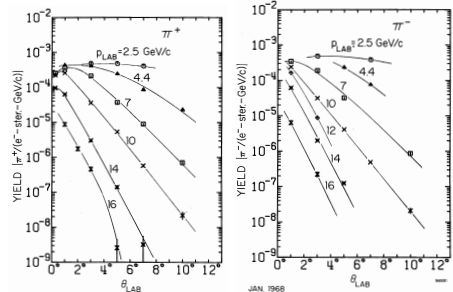
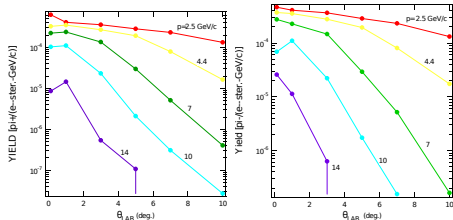


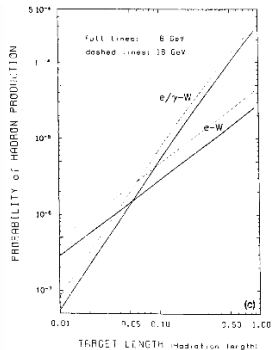
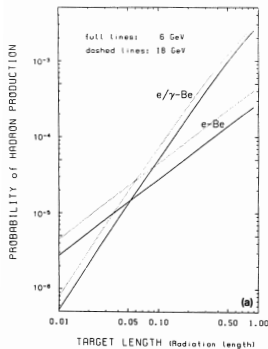
Test of Geant4 pion production



- Comparison against SLAC User's Handbook data (18 GeV e^- , $0.3 X_0$ Be)

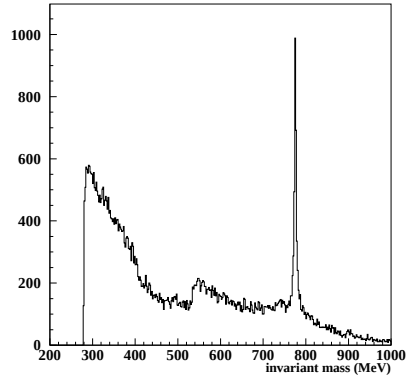
Electronuclear interaction

- Two interactions generate pions: photonuclear and electronuclear — electronuclear dominant for thin targets
- Verified that Geant4 gets the relative probabilities correct



Vector dominance model

- Pion pair production verifies that Geant4 uses vector dominance model



Estimate of pion background

- Pions rate fairly uniform (factor of 2) over the ECal acceptance
- >500 MeV E_{dep} in $PbWO_4$: 1 kHz

