

$h \rightarrow b\bar{b}$ in mSUGRA

$m_0 = 500$ GeV, $m_{1/2} = 500$ GeV, $A_0 = 0$, $\tan\beta = 2$, $\mu < 0$

$M(\tilde{g}) = 1224$ GeV $M(\tilde{u}_L) = 1170$ GeV $M(\tilde{t}_1) = 852$ GeV
 $M(\tilde{\chi}_2^0) = 427$ GeV $M(\tilde{\chi}_1^0) = 217$ GeV $M(h) = 89.7$ GeV

$E_T^{\text{miss}} > 400$ GeV
 ≥ 4 jets, $p_T^{\text{jet}} > 40$ GeV, $|\eta^{\text{jet}}| < 4.5$
 ≥ 2 b-jets, closest bb pair, $|\eta^{\text{b-jet}}| < 1.75$
circularity > 0.1

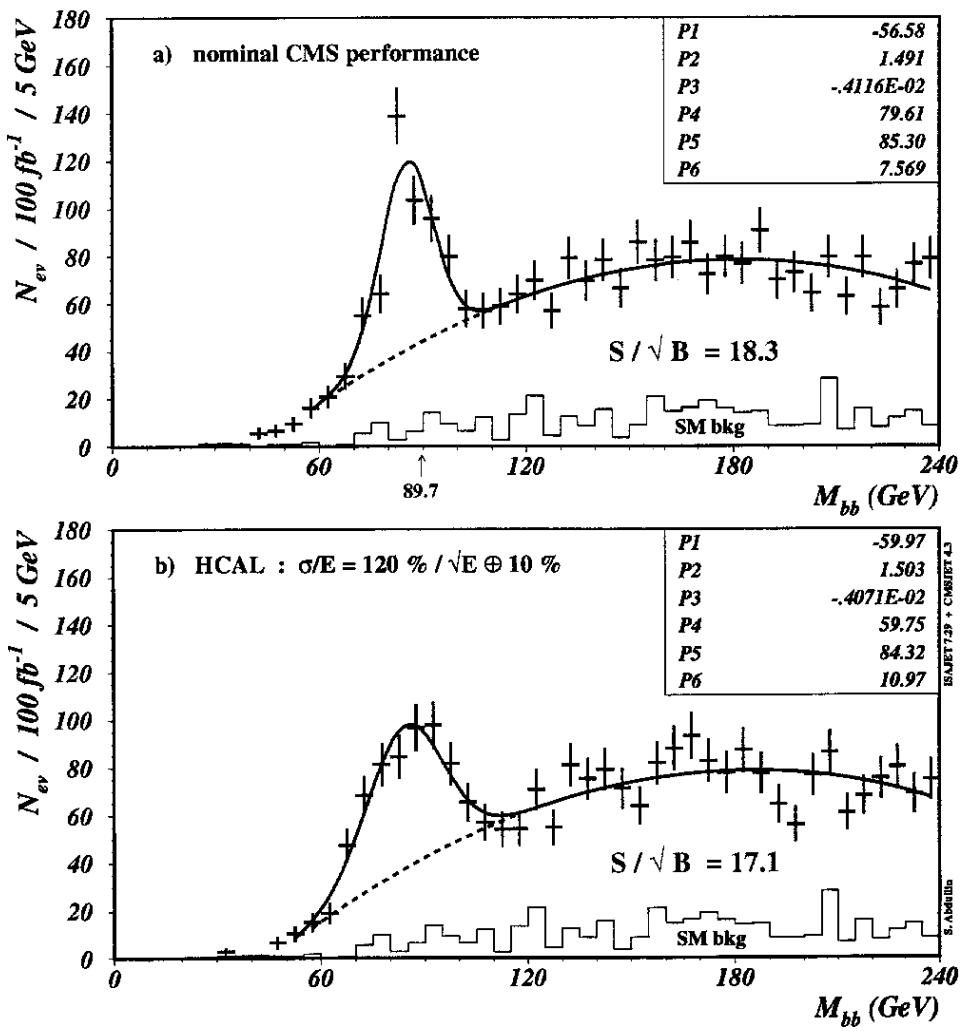


Figure 1

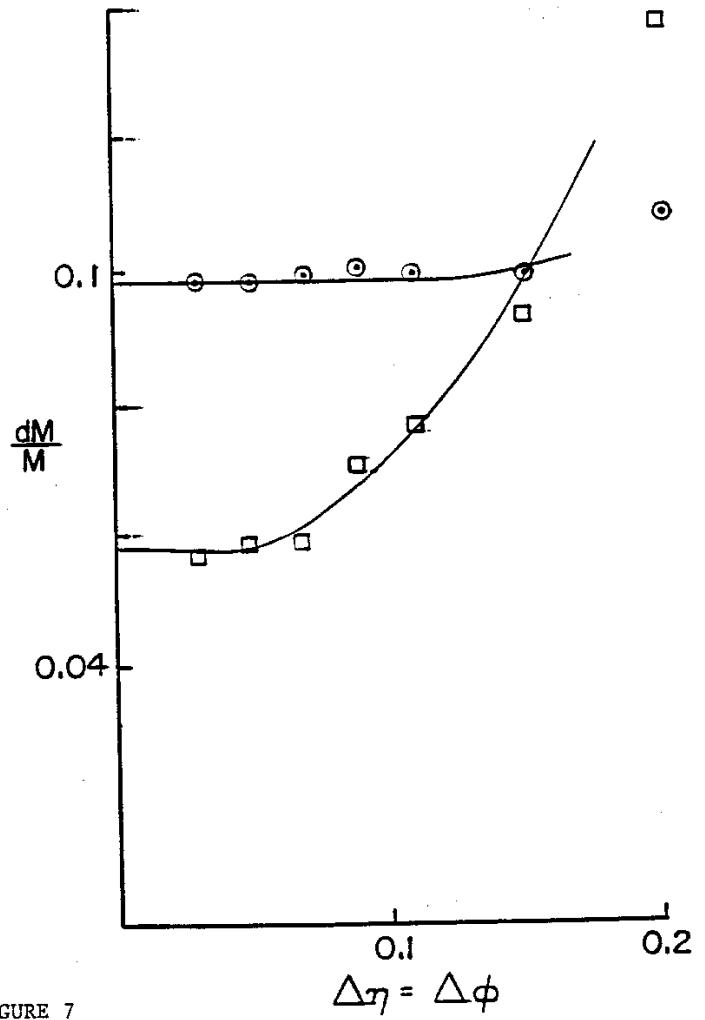


FIGURE 7

Figure 2

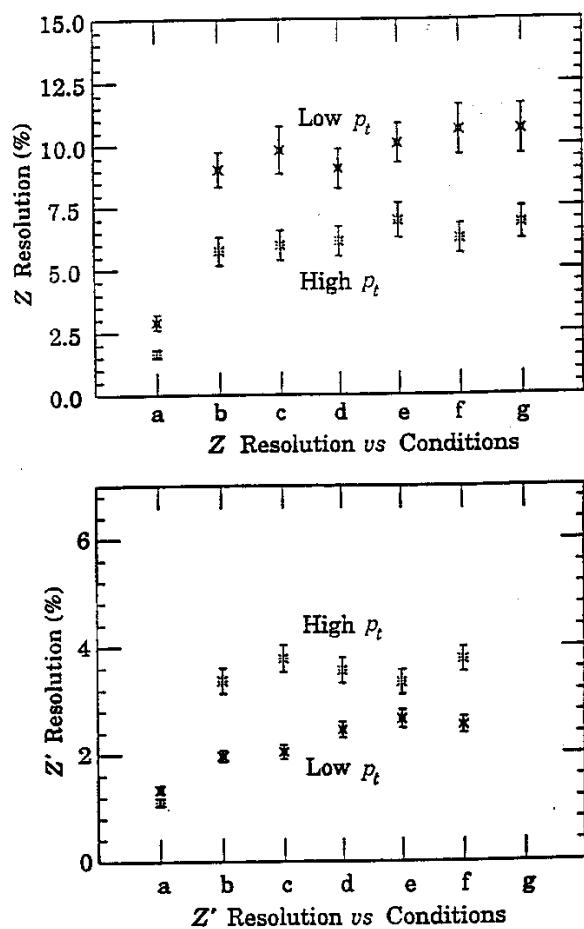


FIGURE 11

Figure 3

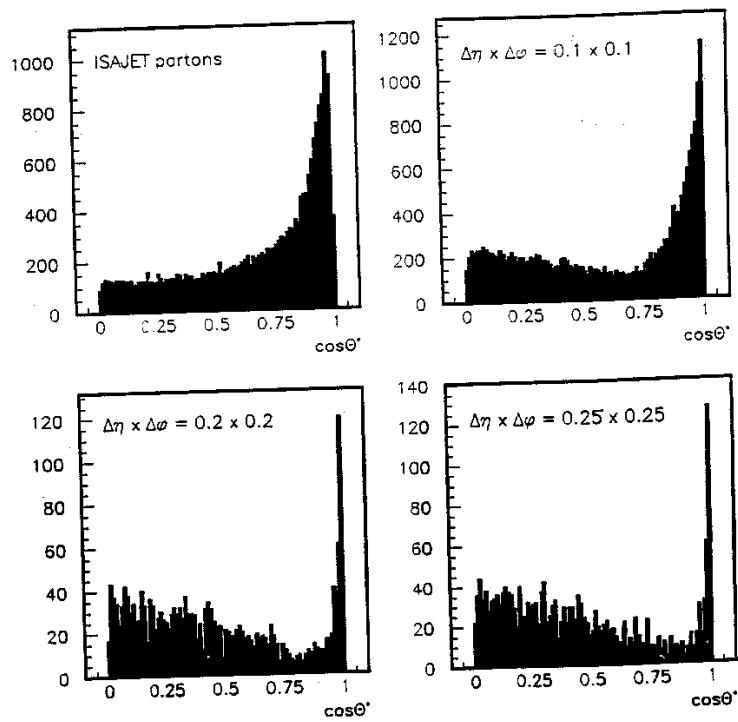


FIG. 7. Distributions of $\cos \theta^*$ for $W + \text{jets}$ background events, with no pileup. The distribution for the ISAJET partons is compared with that found with three different calorimeter segmentations.

Figure 4

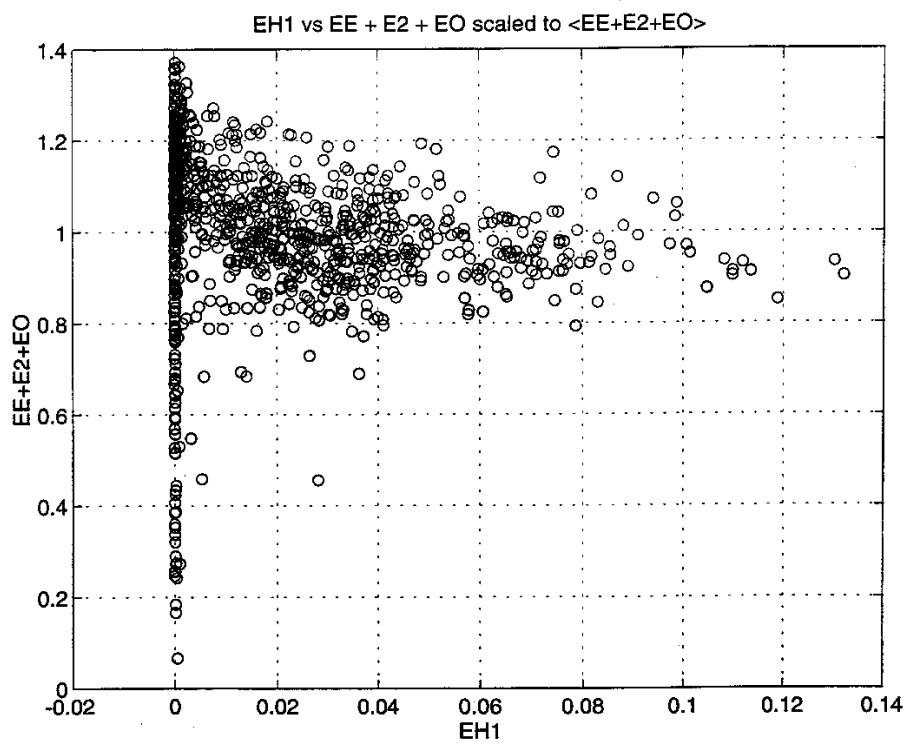


Figure 5

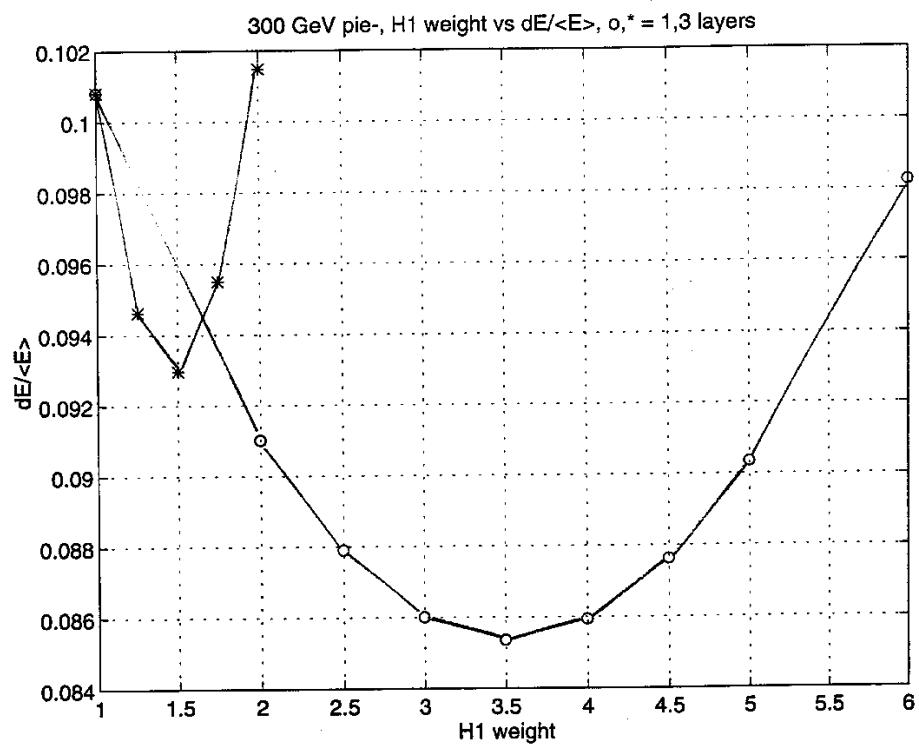


Figure 6 a

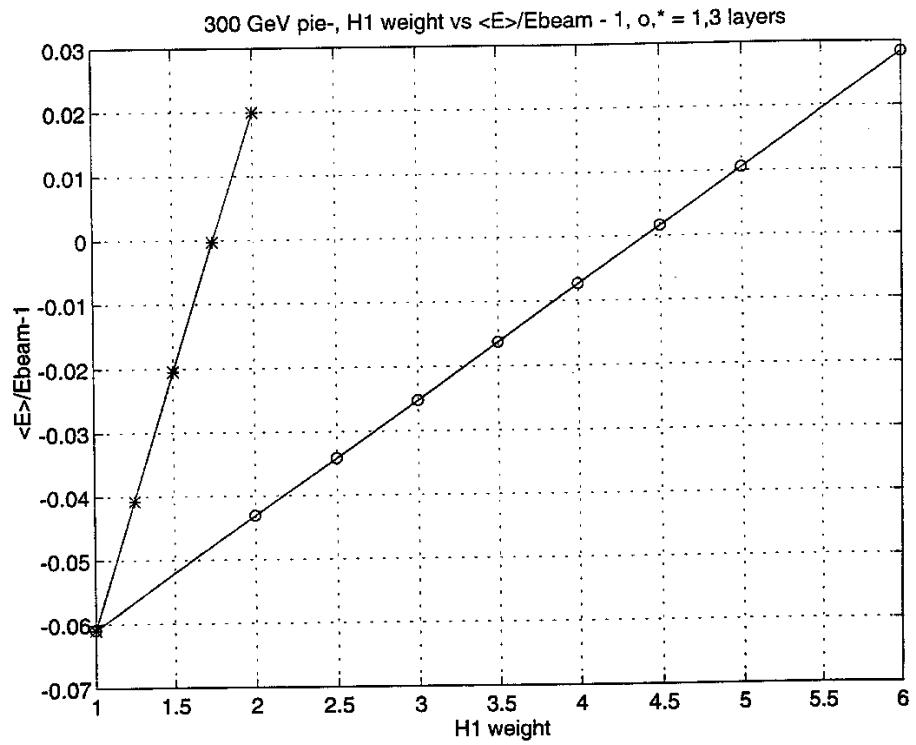


Figure 6b

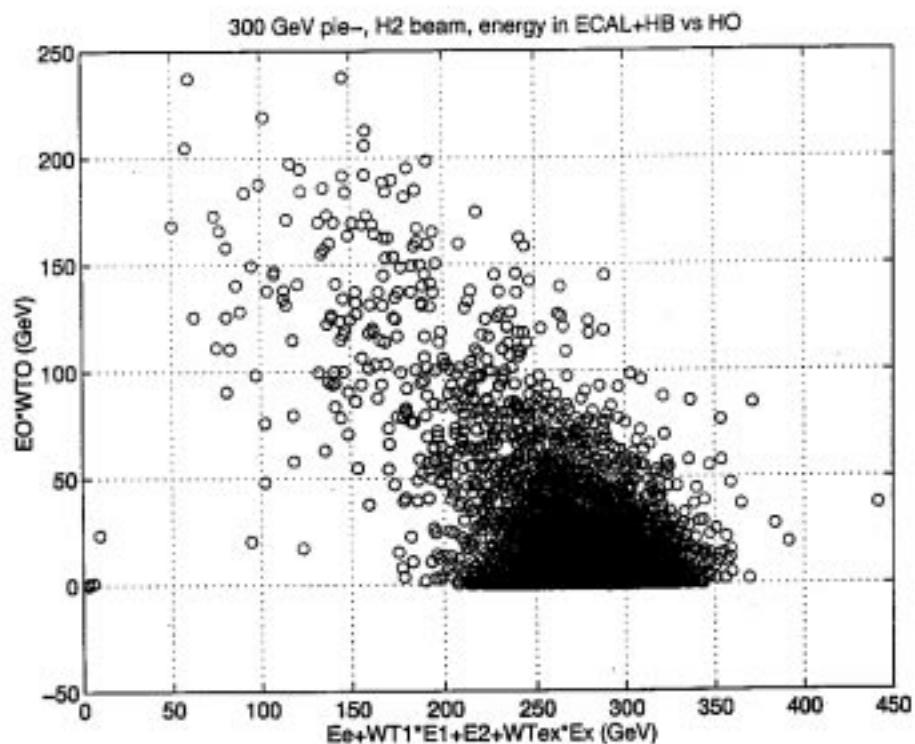


Figure 7

6. MAGNETIC ANALYSIS

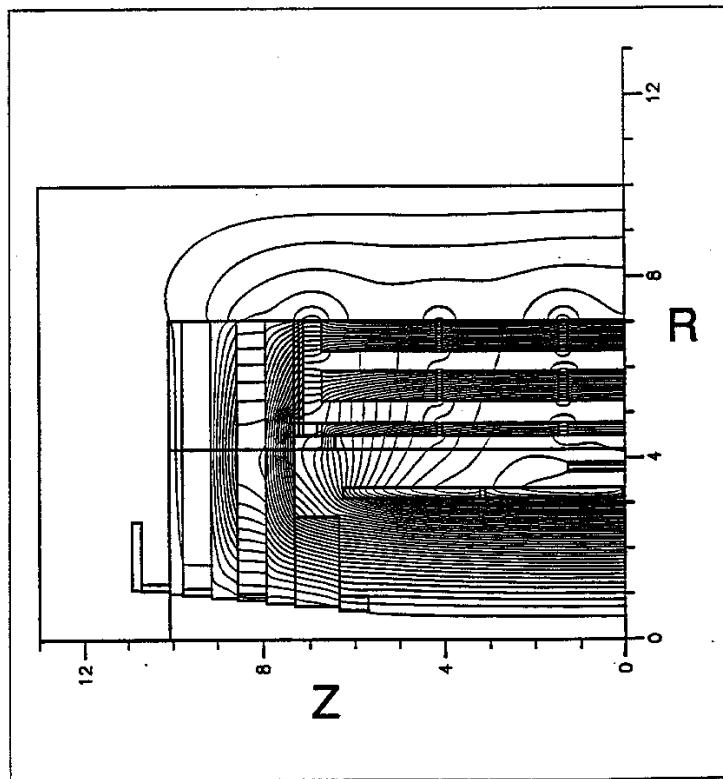


Fig. 6.3: Typical flux line distribution.

Figure 8

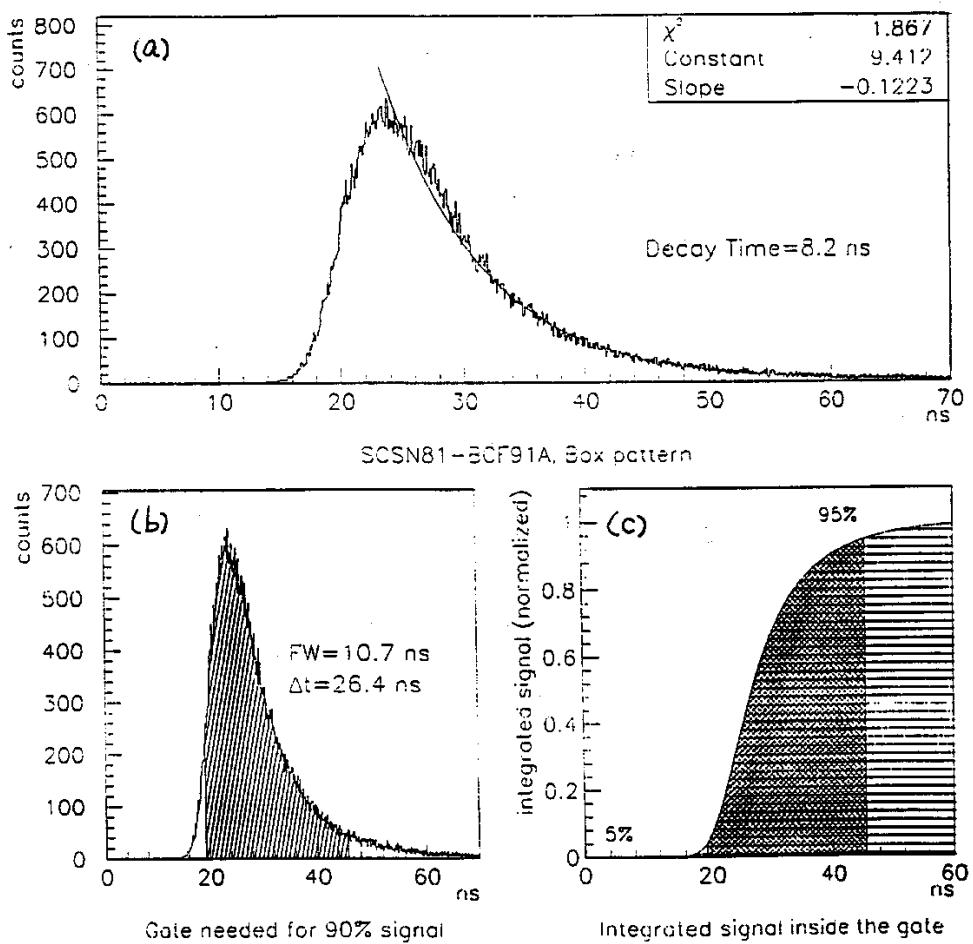
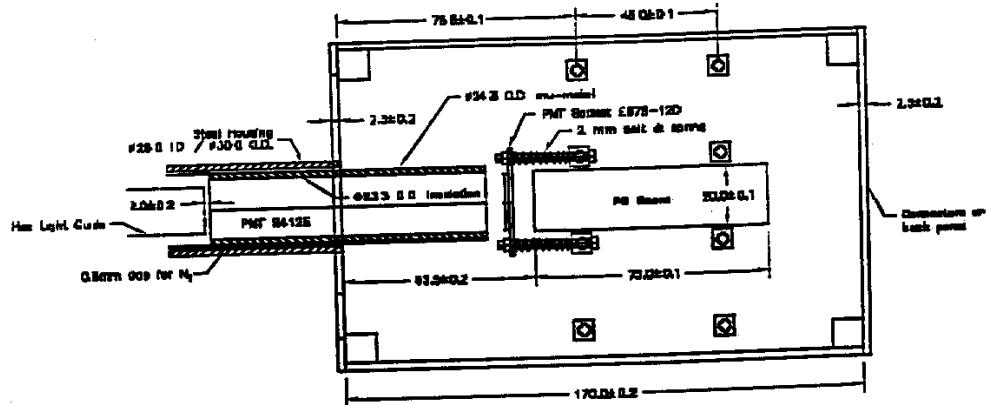


Figure 3: (a) Decay time spectrum of SCSN81/BCF91A, box pattern. Tail of the measured decay spectra was fitted to an exponential function ($= A \cdot e^{-t/\tau}$) to obtain a "decay time ($= \tau$)". (b) The decay spectrum was integrated to obtain the time needed to capture 90% of the signal ($\equiv \Delta t = 90\%$ signal collection time) (c) Integrated signal inside Δt .

Figure 9

PMT Box (Side View)



PMT Box, Side View
PMT Housing Details

Figure 10

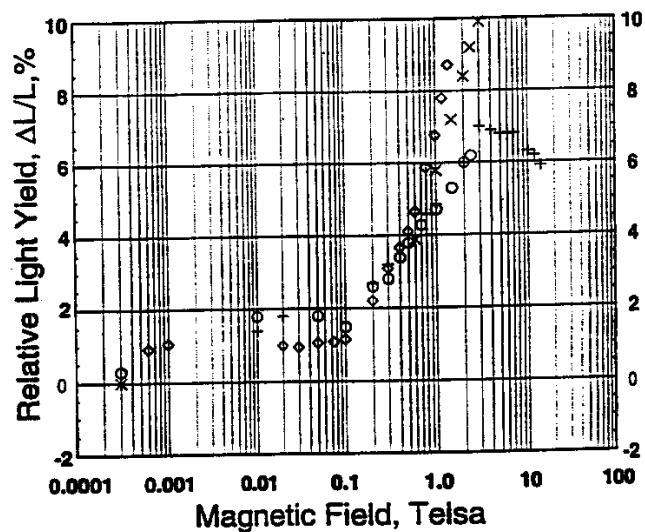


Fig. 5. Relative light yield increase as a function of magnetic field. (o) SCSN38 with ^{226}Ra ; (+) SCSN38 with ^{60}Co ; (\diamond) DESY calorimeter with SCSN38 using 6 GeV electrons; (\times) Shashlik calorimeter using electron beam.

Figure 11

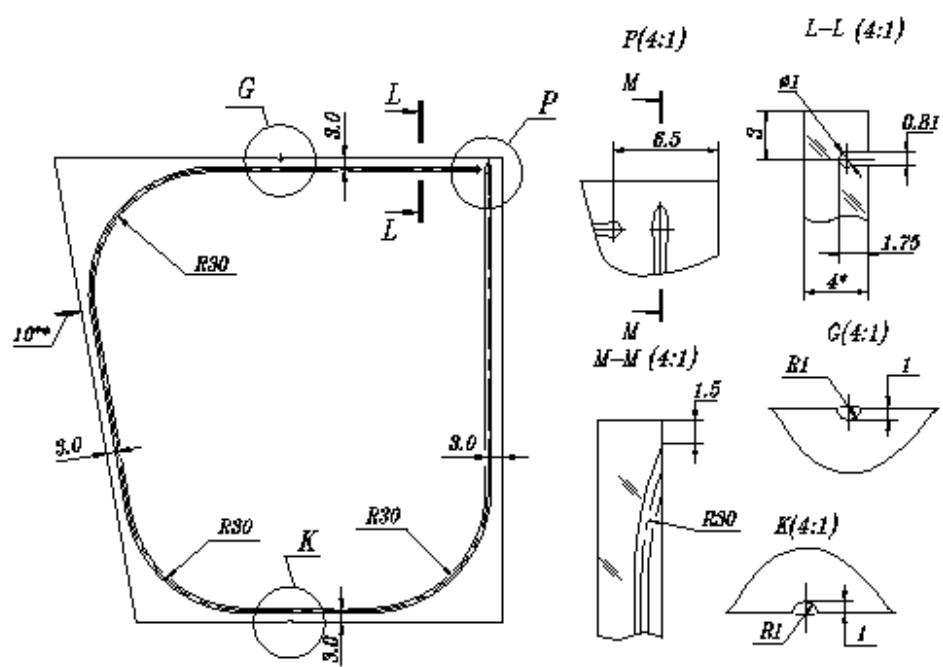


Figure 12

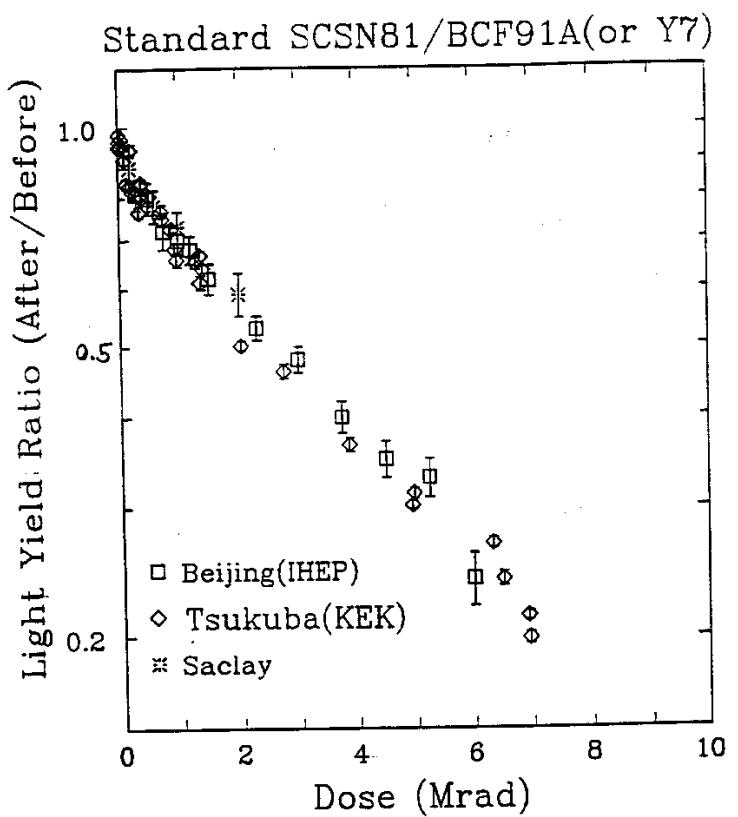


Figure 9: Radiation hardness (ratio of light yield after to before the irradiation as a function of total dose) for a “standard” tile/fiber - SCSN81/BCF91A(or Y7) measured by beam test modules using electron beam. Data from references [4,5,6].

Figure 13

Figure 3. Fractional Mass Resolution in percent Low Pt

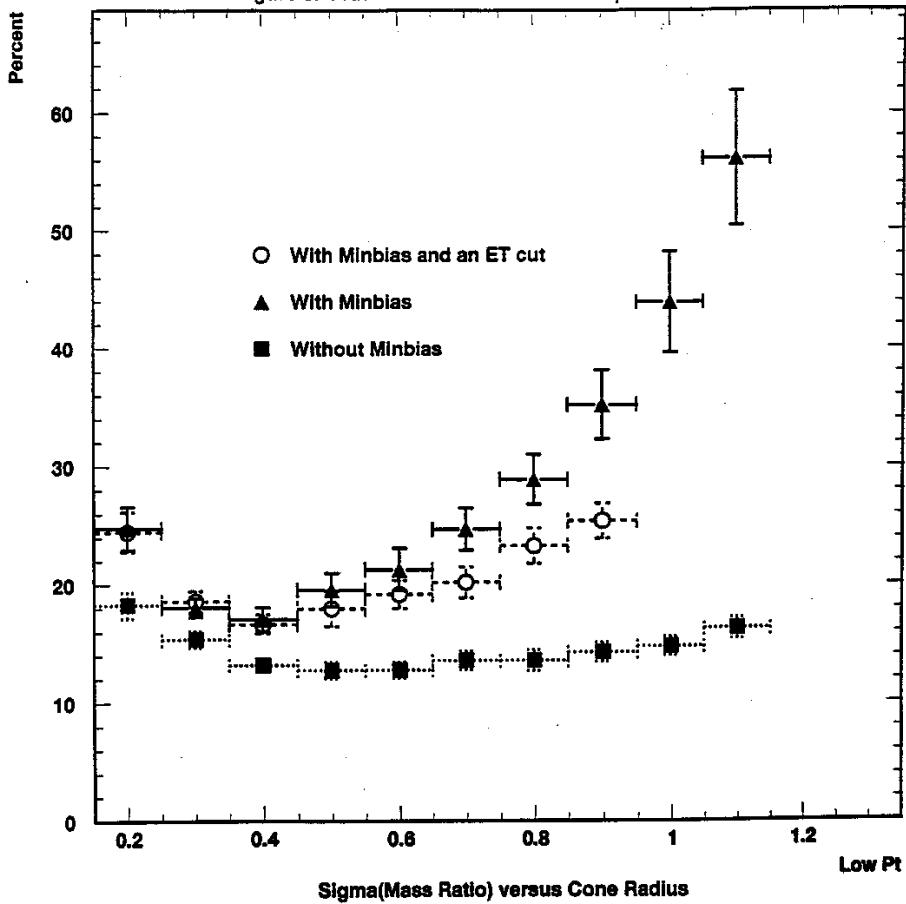


Figure 14

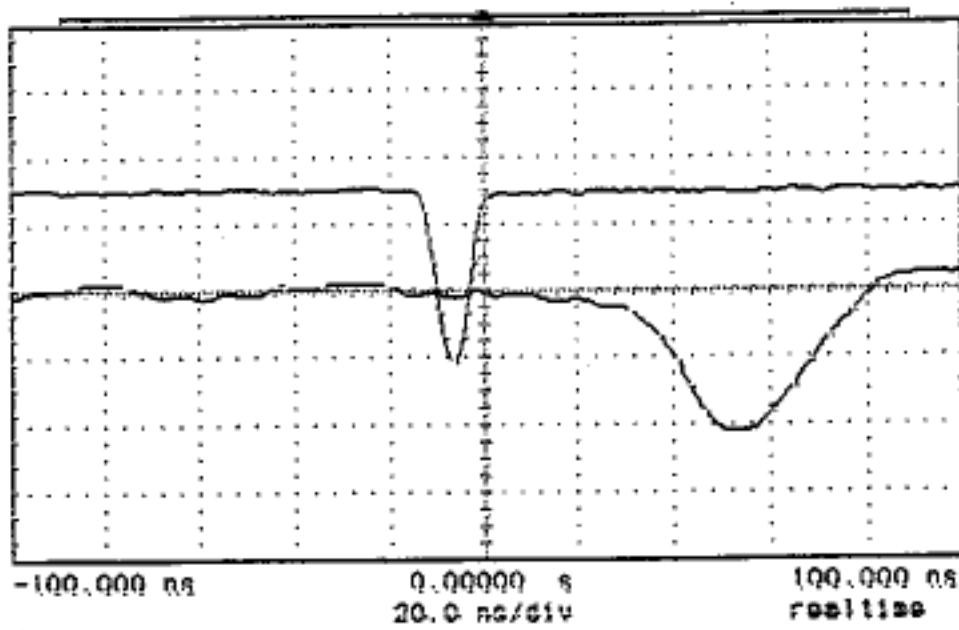
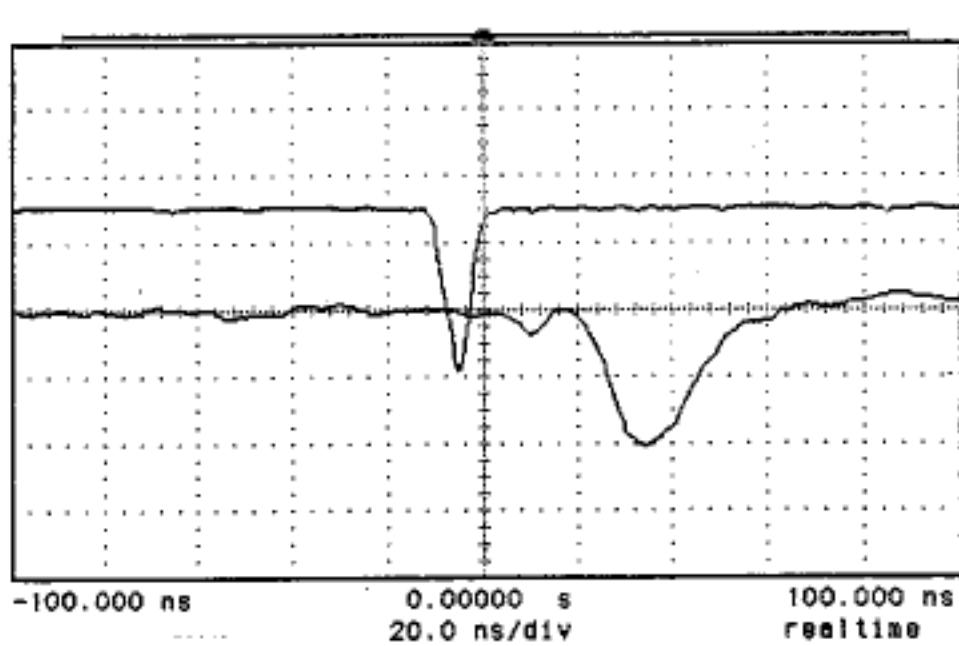


Figure 15