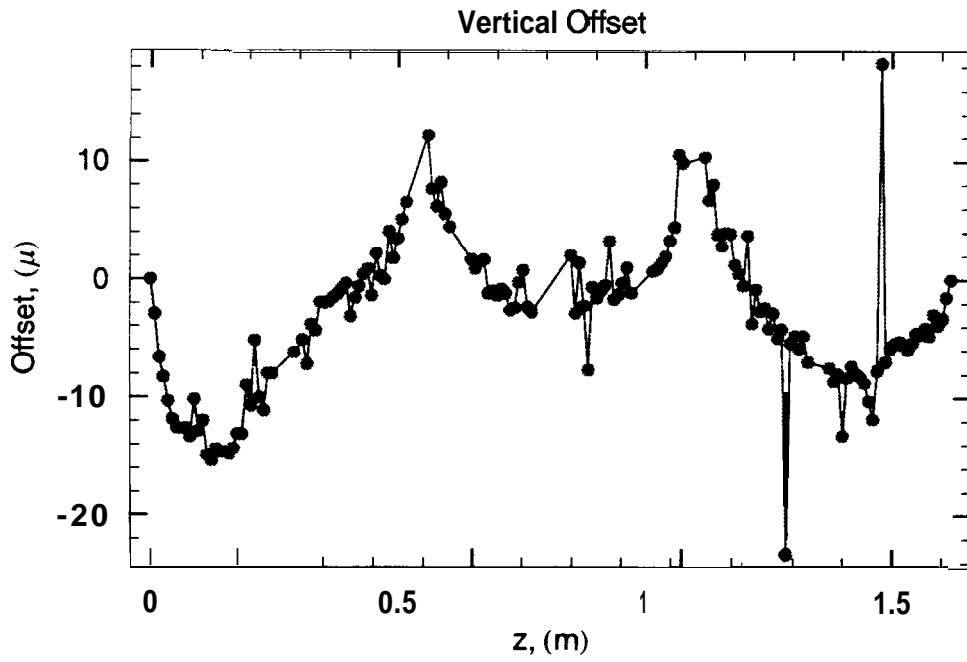
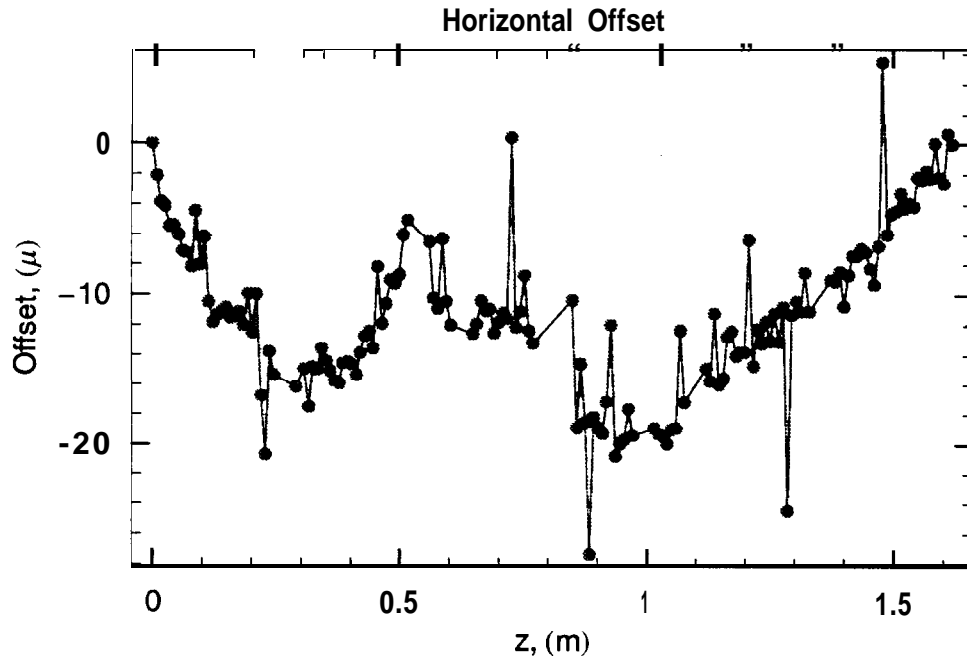
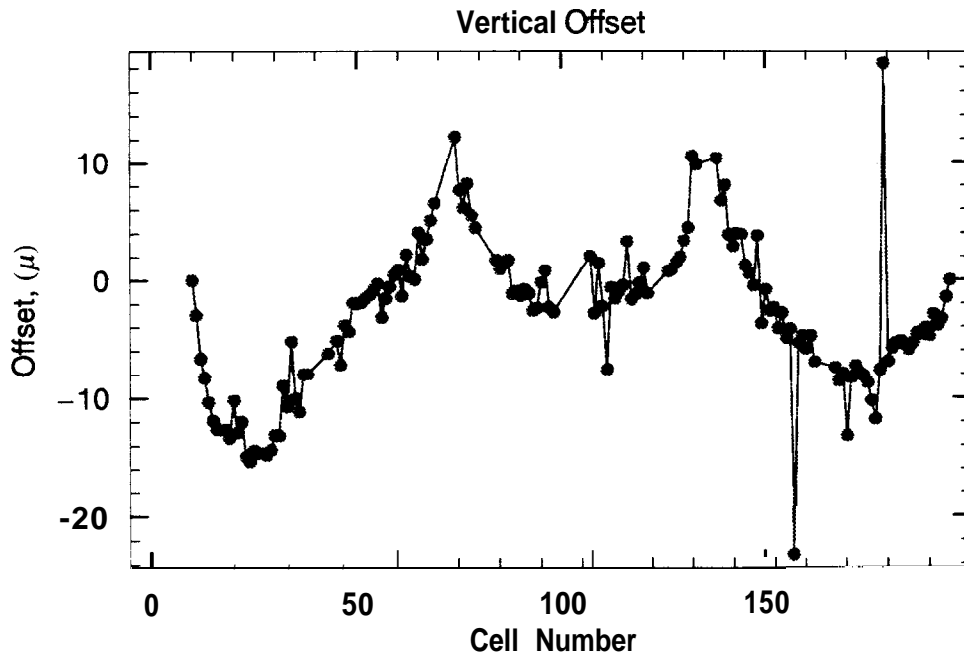
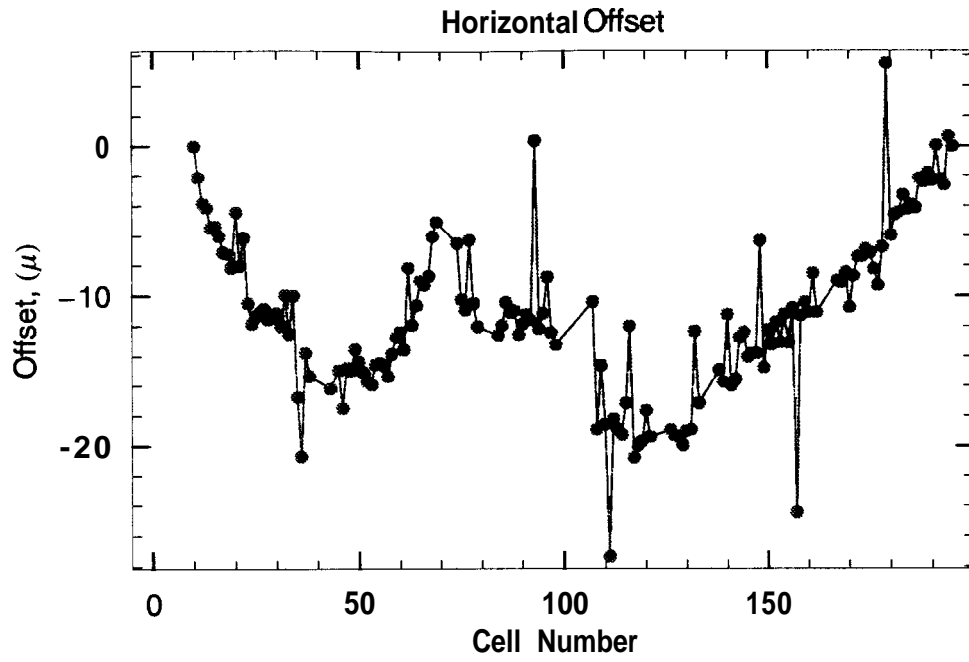


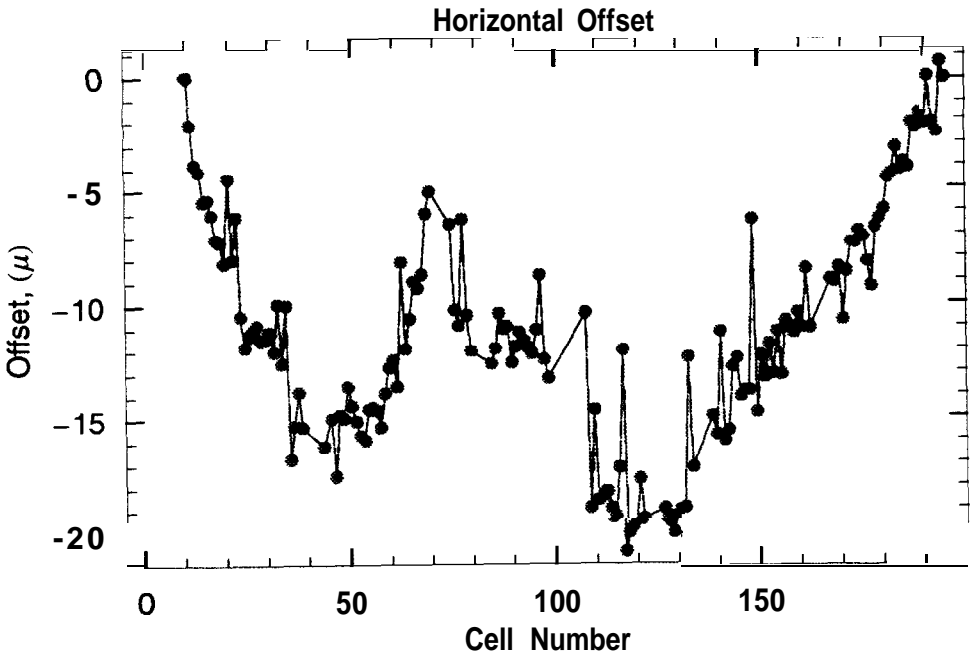
Raw data: offset vs z



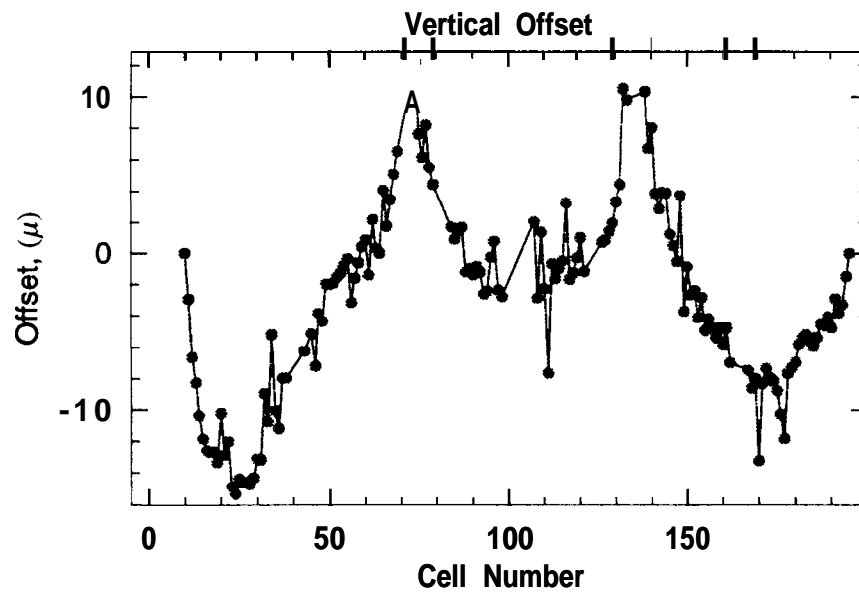
Raw data: offset vs N cell



Corrected data

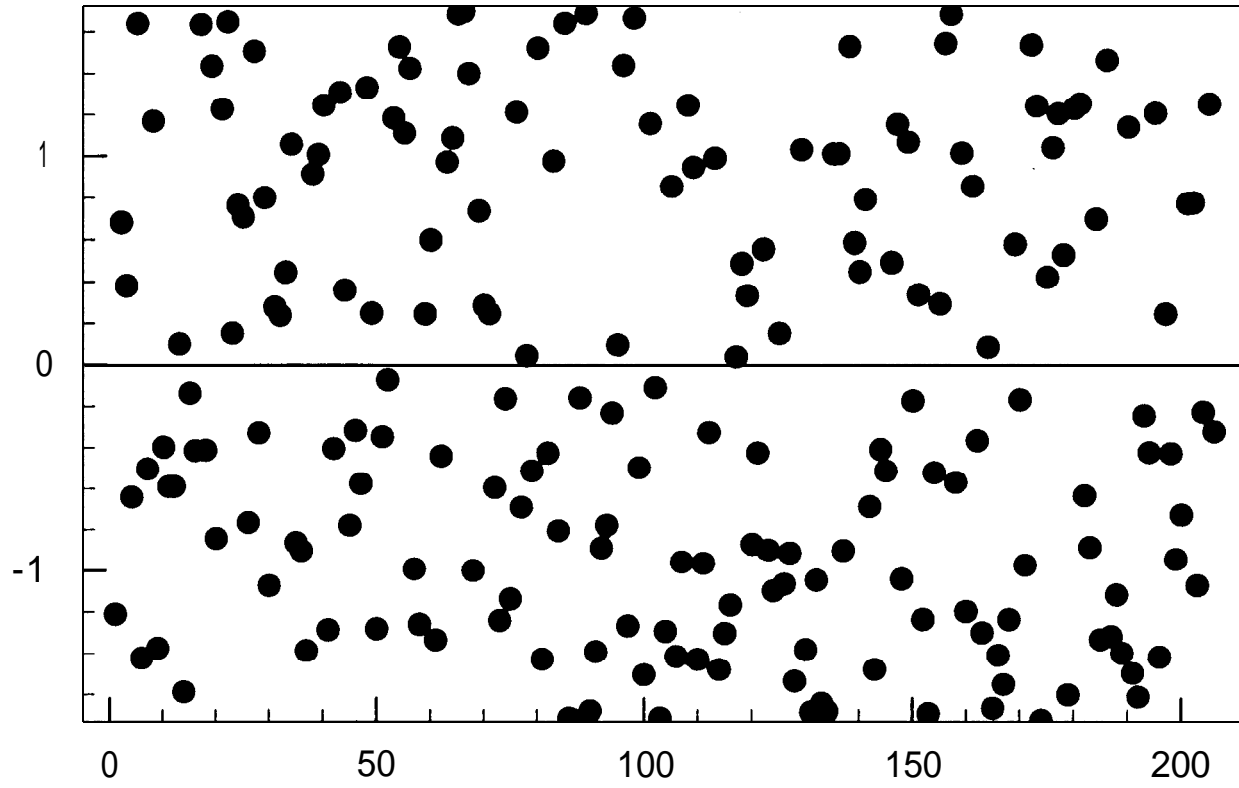


$$x_{av} = -11.1 \mu, \Delta x_{rms} = 4.9 \mu$$

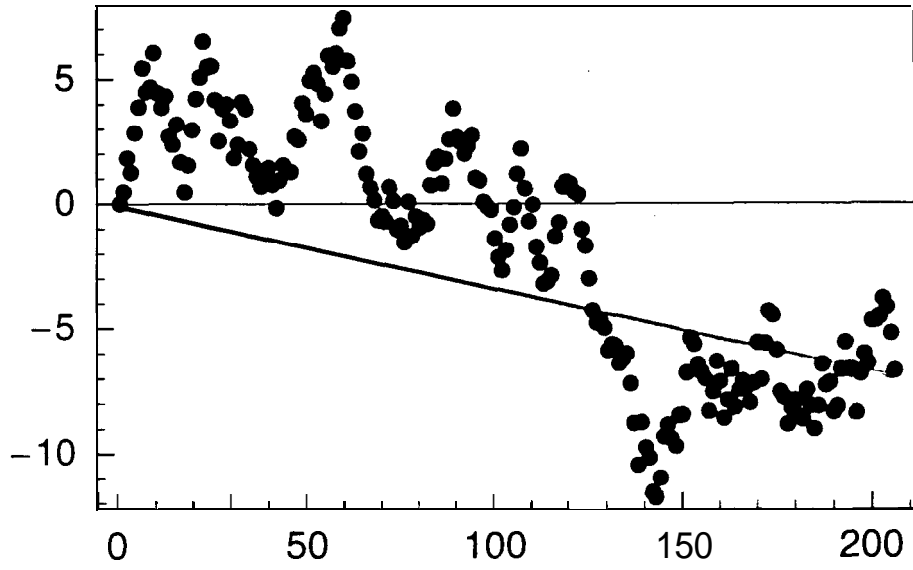


$$\gamma_{av} = -3.1 \mu, \Delta y_{rms} = 5.9 \mu$$

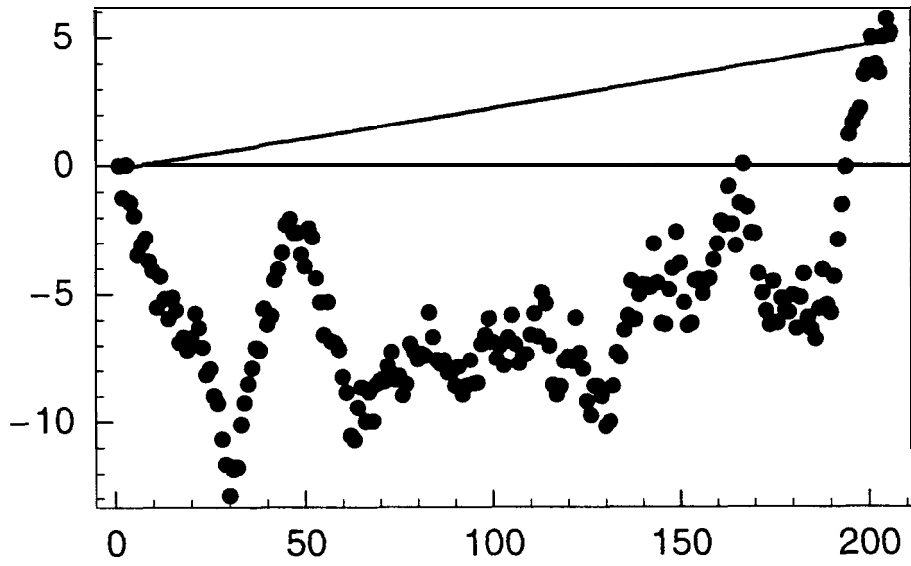
Uncorrelated Random Cell Offsets With rms=1



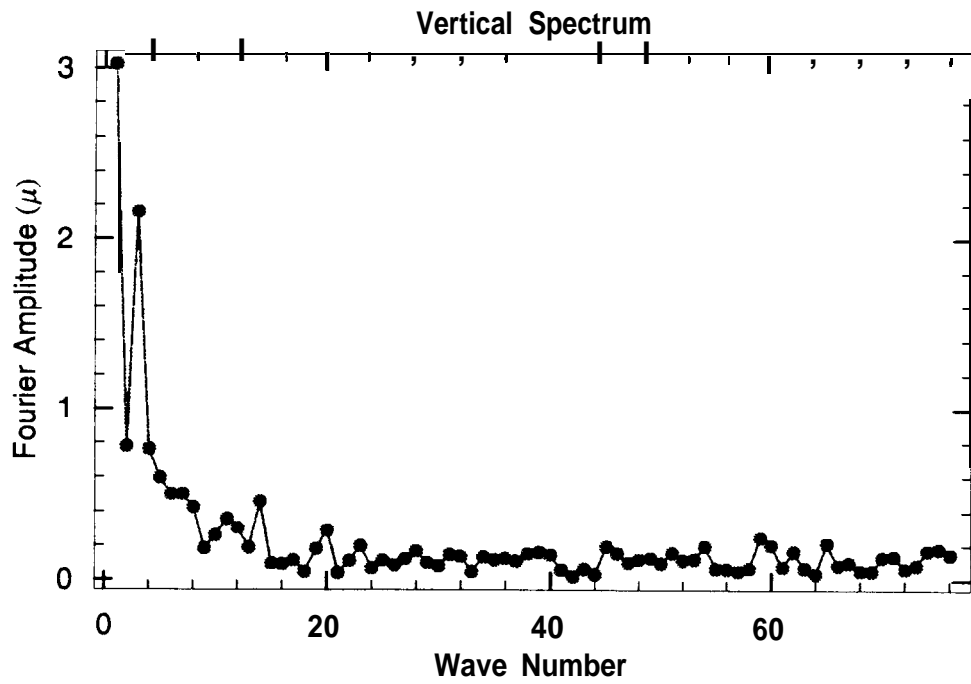
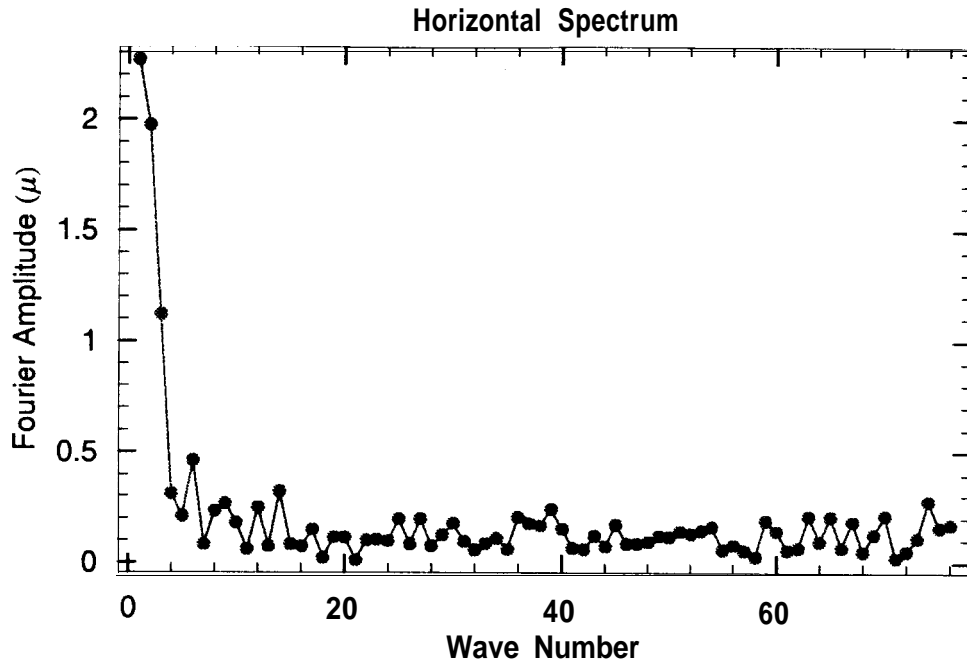
Random Walk Cell Offsets, rms Step=1

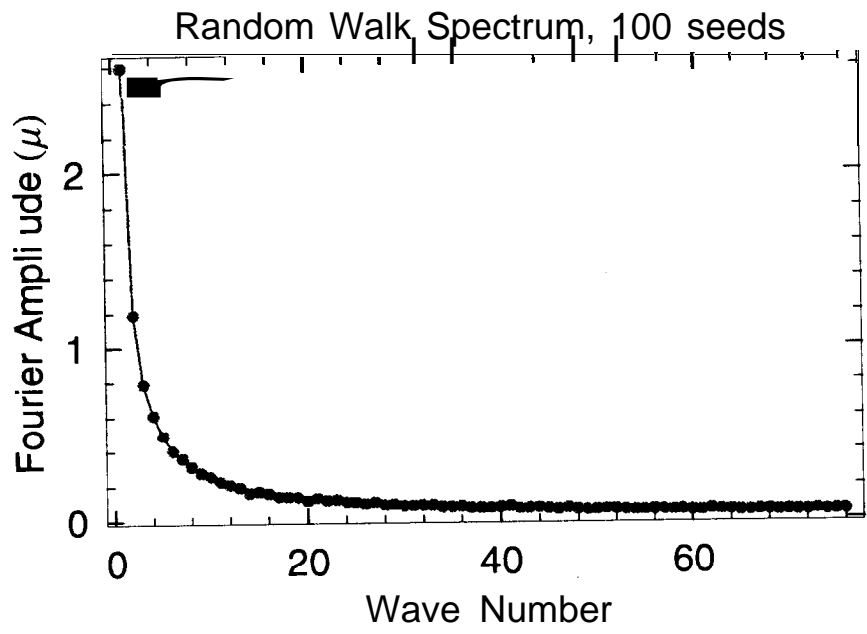


Random Walk Cell Offsets, rms Step=1

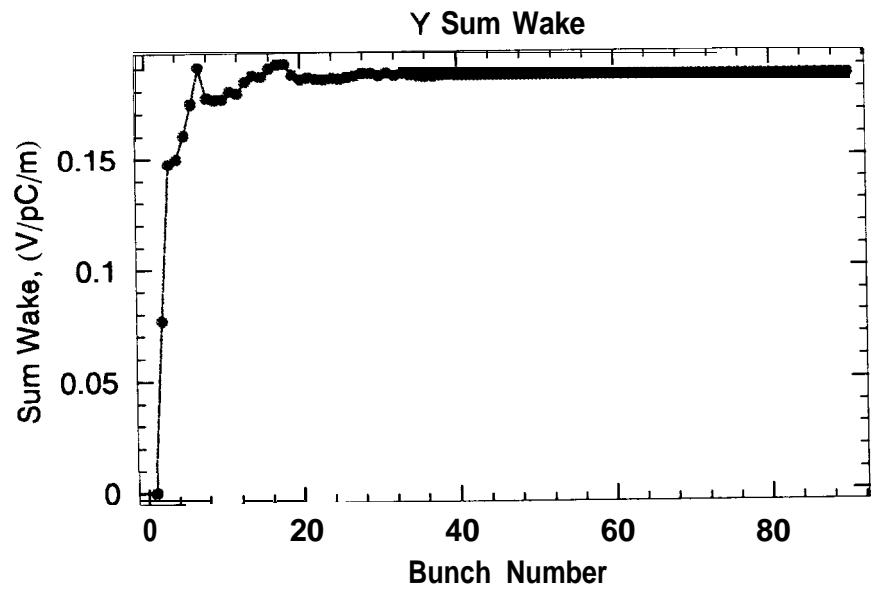


Spectra





Sum wake



Vertical Emittance Growth due to LR Wake

$$\Delta\epsilon_N = e^4 N^2 \bar{\beta}_0 N_a L_a^2 (S_a)_{rms}^2 \left[\frac{1 - (E_0/E_f)^{1/2}}{E_0^{1/2} E_f^{3/2}} \right]$$

where $S_a = 0.015$ V/pC/m.

$$\Delta\epsilon_N = 1.7 \times 10^{-9} \text{ m}$$

or

$$\frac{\Delta\epsilon_N}{\epsilon_N} = 0.04$$