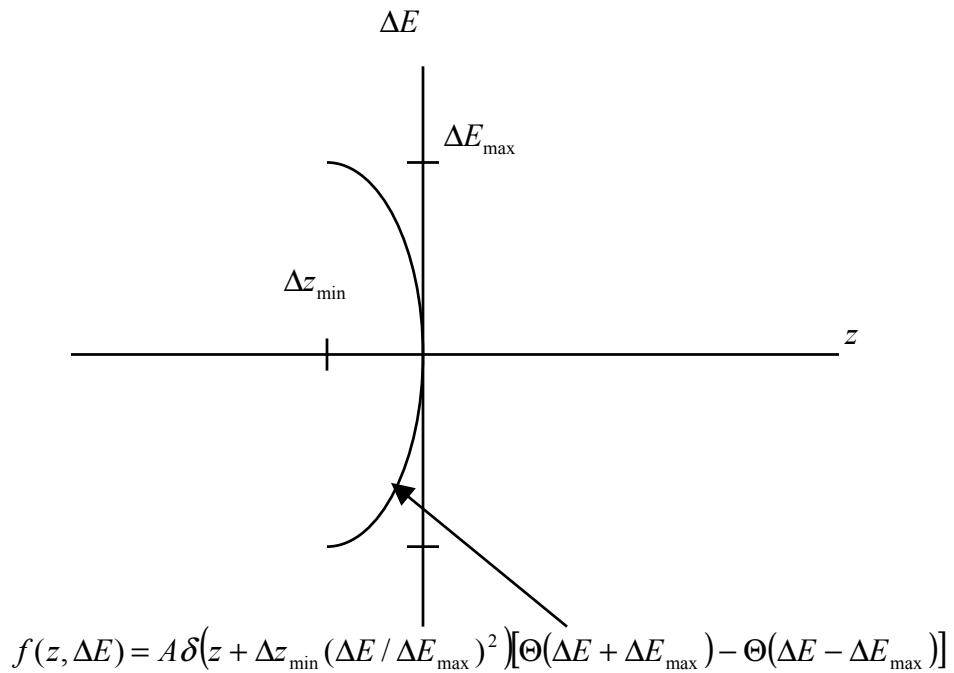


Homework Problems 4

- Suppose for a moment that one could create a distribution with no intrinsic spread but which had a parabolic distortion in the phase space. Compute the longitudinal emittance as a function of the parabolic distortion. Does your result approach the proper limit as Δz_{\min} goes to zero?



- Assuming no microphonics, plot β_{opt} and P_g^{opt} as function of b (beam loading), $b = -5$ to 5 , and explain the results.

How do the results change if microphonics is present?

