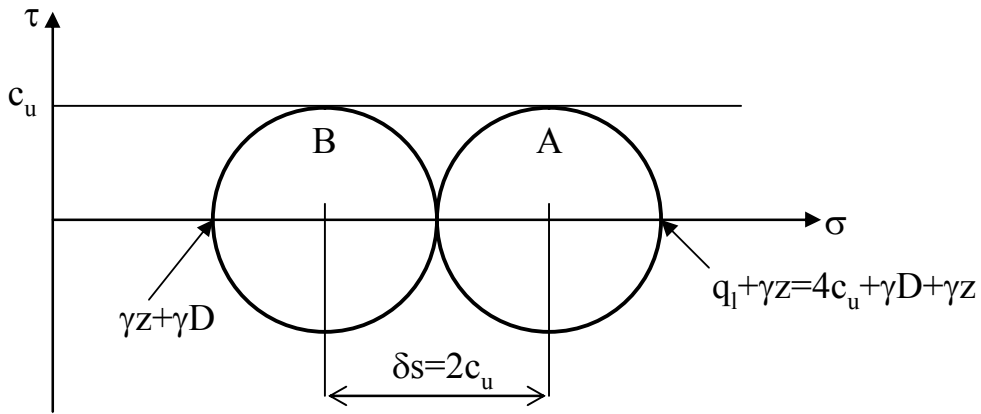


Homework 4

For the stress field in Fig.1, the vertical stress in region B is $\sigma_z = \gamma z + \gamma D$ and the vertical stress in region A is $\sigma_z = q_l + \gamma z$ (where $q_l = P^L / B$). From these stresses the corresponding Mohr circles can be drawn as below.



Directions of major principal stress on the stress discontinuity in the stress field shown in Fig.2 are given in Fig.2.1.

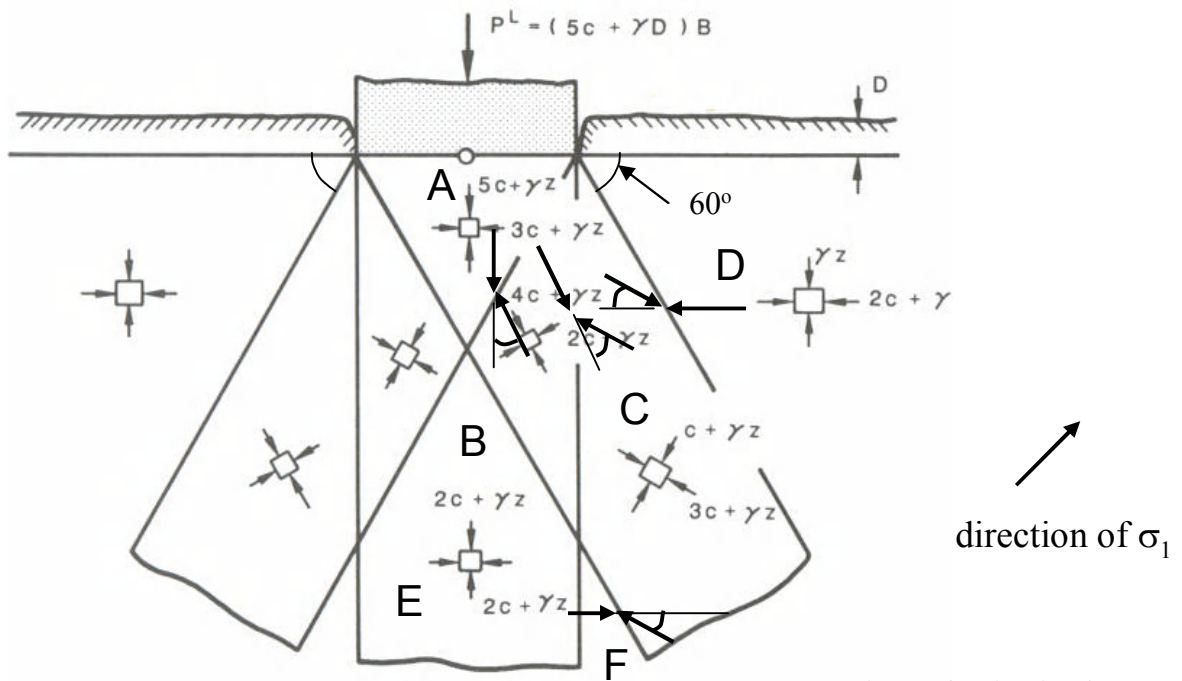


Fig.2.1

$\delta\theta$: rotation of principal stress
 $\delta\theta = 30^\circ$ for all discontinuities

Using Fig.2.1, and $\sigma_z = \gamma z + \gamma D$ for region D and $\sigma_z = q_l + \gamma z$ for region A, the following Mohr stress circles can be drawn.

In order to confirm the equilibrium condition for entire region, Mohr circle in region F should be also examined.

