Concrete Plasticity H.W #2 2007-20601

문주혁

Mohr Coulomb Material

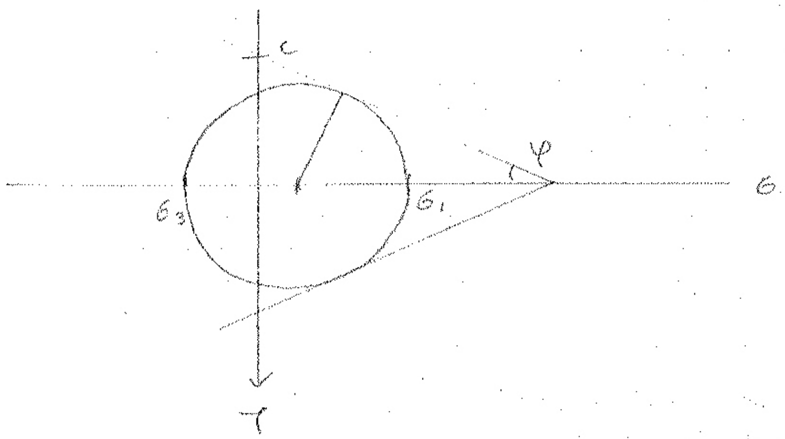
- Sliding failure

$|\tau| = c - \mu\sigma$

$K \cdot \sigma_1 - \sigma_3 = 2c\sqrt{K}$, $K = (\sqrt{1+\mu^2} + \mu)^2$, $\mu = \tan\varphi$ → ①

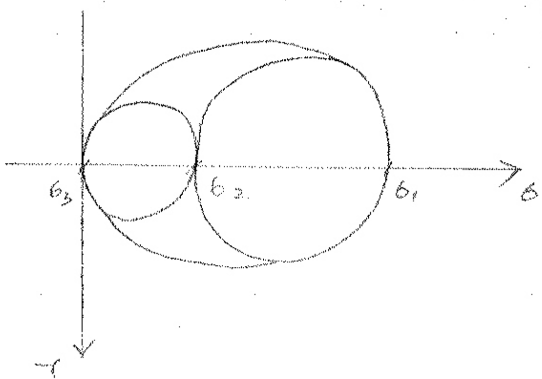
- Seperation failure

$\sigma_1 = f_A$ → ②



⇒ σ_I, σ_{II} cordination

① $\sigma_I > \sigma_{II} > 0$, pure tension



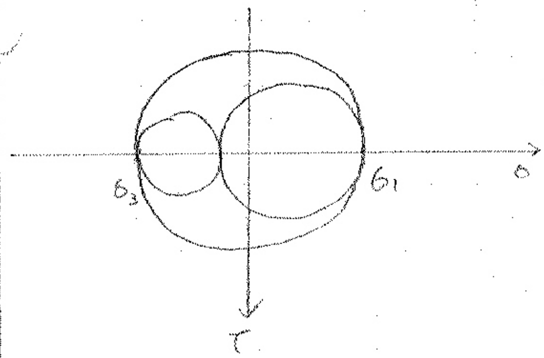
- sliding failure

$K \cdot \sigma_1 = f_c$

- seperation failure

$\sigma_I = f_A$.

② $\sigma_I > 0 > \sigma_{II}$, general condition



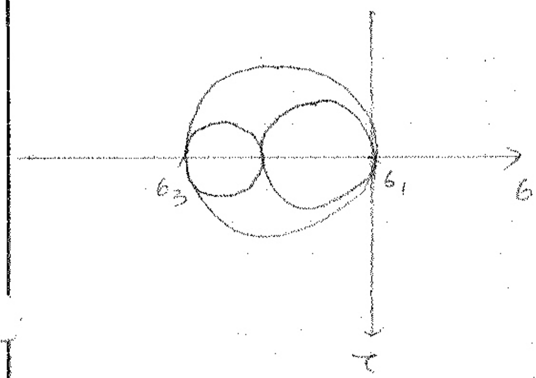
sliding failure

$K\sigma_I - \sigma_{II} = f_c$

seperation failure

$\sigma_I = f_a$

③ $0 > \sigma_I > \sigma_{II}$, pure compression



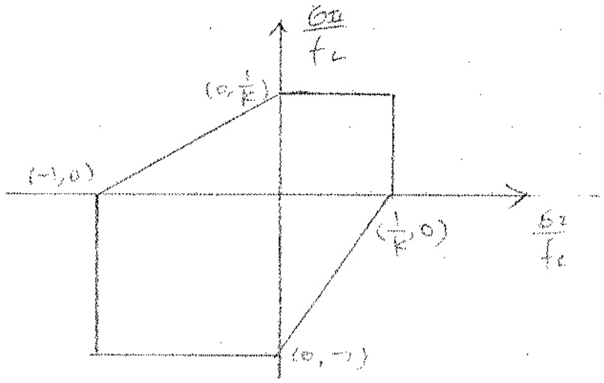
sliding failure

$K \cdot 0 - \sigma_{II} = f_c$

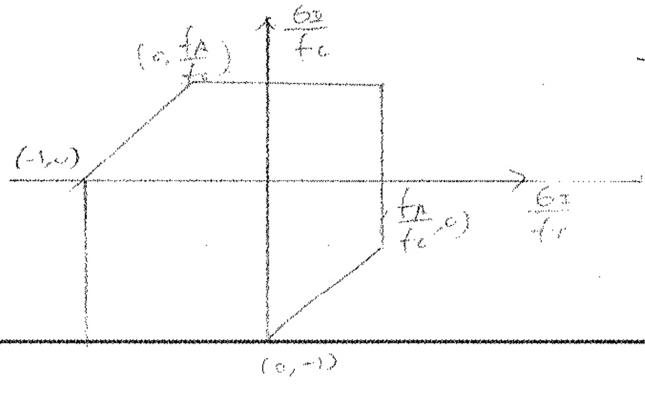
seperation failure

×

Mohr-Coulomb Yield criteria on S_1-S_2 system



→ $\frac{1}{K} \le \frac{f_A}{f_c}$, sliding failure



→ $\frac{1}{K} \ge \frac{f_A}{f_c}$, seperation failure