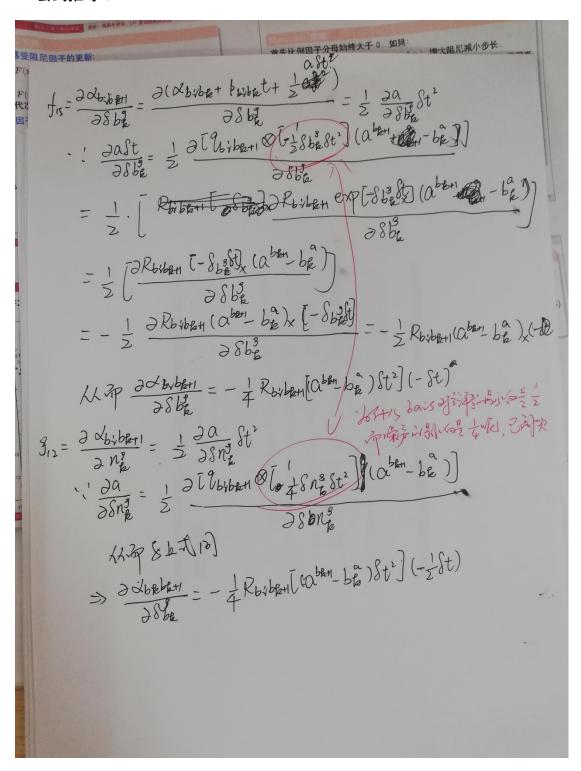
## 2. 公式推导:



## 3. 证明:

構造  $\Delta \times \ell_{m} = -\frac{\Sigma}{j=1} \frac{\sqrt{j}F'T}{2j+\mu J}$   $-(FTJ)^{T} = -(F')^{T}$   $\Rightarrow \Delta \times \ell_{m} = (J^{T}J+\mu J)^{-1}(-F'T)$   $\Rightarrow \Delta \times \ell_{m} = (J^{T}J+\mu J)^{-1}(-F'T)$   $\Rightarrow J^{T}J$  进行 程位值分析 :  $J^{T}J = \sum_{j=1}^{N} \frac{\lambda_{j}}{\lambda_{j}+\mu} \frac{\lambda_{j}}{\lambda_{j}}$   $\lambda_{j} = -\frac{\Sigma}{j=1} \frac{\lambda_{j}}{\lambda_{j}+\mu} \frac{\lambda_{j}}{\lambda_{j}+\mu}$   $= -\frac{\Sigma}{j=1} \frac{\lambda_{j}}{\lambda_{j}+\mu} \frac{\lambda_{j}}{\lambda_{j}+\mu}$   $= -\frac{\Sigma}{j=1} \frac{\lambda_{j}}{\lambda_{j}+\mu} \frac{\lambda_{j}}{\lambda_{j}+\mu}$