$$q_{peak,\,det} = (N_{c0}s_{um} + q_0 + 0{\cdot}12\gamma'_s H_s)\left(1 + \frac{1{\cdot}76H_s}{D}\tan\psi\right)^{E^*} + \frac{\gamma'_s D}{2\tan\psi(E^*+1)}\left[1 - \left(1 - \frac{1{\cdot}76H_s}{D}E^*\tan\psi\right) \times \left(1 + \frac{1{\cdot}76H_s}{D}\tan\psi\right)^{E^*}\right]$$