

$$\begin{aligned}
 q_{\text{peak, det}} = & (N_{c0}s_{\text{um}} + q_0 + 0.12\gamma'_s H_s) \left( 1 + \frac{1.76H_s}{D} \tan \psi \right)^{E^*} \\
 & + \frac{\gamma'_s D}{2 \tan \psi (E^* + 1)} \left[ 1 - \left( 1 - \frac{1.76H_s}{D} E^* \tan \psi \right) \right. \\
 & \times \left. \left( 1 + \frac{1.76H_s}{D} \tan \psi \right)^{E^*} \right]
 \end{aligned}$$

