

$$\begin{aligned}
S_{3ACn}(y_{br}) := & 2 \cdot \int_{-\langle h - y_G \rangle}^{H + y_G} y \cdot \left(\sqrt{R^2 - \langle y - y_G \rangle^2} - r \right) dy \\
& + 2 \cdot \int_{-\langle (h - y_G) + r \cdot \tan(30 \text{ deg}) \rangle}^{-\langle h - y_G \rangle} y \cdot \left(\sqrt{R^2 - \langle |y| + y_G \rangle^2} - r + \frac{|y| - \langle h - y_G \rangle}{\tan(30 \text{ deg})} \right) dy \\
& + 2 \cdot \int_{-y_{br}}^{-\langle (h - y_G) + r \cdot \tan(30 \text{ deg}) \rangle} y \cdot \left(\sqrt{R^2 - \langle |y| + y_G \rangle^2} \right) dy
\end{aligned}$$