

Incipient motion formulas copied from Nandasena et al. (2022)

Type of movement	Pre-setting conditions		
	SB/SA	JBB	CEB
Sliding	$\frac{2C_{vv}(\rho_s/\rho_w - 1)gc(\mu_s \cos \theta + \sin \theta)}{C_{dv}(c/b) + \mu_s C_{lv}}$	-	-
Overturning	$\frac{2C_{vv}(\rho_s/\rho_w - 1)gc(\cos \theta + (c/b)\sin \theta)}{C_{dv}(c^2/b^2) + C_{lv}}$	-	$\frac{2C_{vv}(\rho_s/\rho_w - 1)gc}{C_{lv} - C_{dv}(c^2/b^2)}$
Saltation/ lifting	$\frac{2C_{vv}(\rho_s/\rho_w - 1)gc(\cos \theta)}{C_{lv}}$	$\frac{2C_{vv}(\rho_s/\rho_w - 1)gc(\cos \theta + \mu_s \sin \theta)}{C_{lv}}$	$\frac{2C_{vv}(\rho_s/\rho_w - 1)gc}{C_{lv} - \mu_s C_{dv}(c/b)}$

Application of Fr number to calculate flow depth from flow velocity

$$F_r = \frac{u}{\sqrt{gh}}$$

$$h = \frac{u^2}{gF_r^2}$$

Therefore, the formulas for flow depth (wave height, h)

Type of movement	Pre-setting conditions		
	SB/SA	JBB	CEB
Sliding	$\frac{2C_{vv}(\rho_s/\rho_w - 1)c(\mu_s \cos \theta + \sin \theta)}{F_r^2 [C_{dv}(c/b) + \mu_s C_{lv}]}$	-	-
Overturning	$\frac{2C_{vv}(\rho_s/\rho_w - 1)c(\cos \theta + (c/b)\sin \theta)}{F_r^2 [C_{dv}(c^2/b^2) + C_{lv}]}$	-	$\frac{2C_{vv}(\rho_s/\rho_w - 1)c}{F_r^2 [C_{lv} - C_{dv}(c^2/b^2)]}$
Saltation/ lifting	$\frac{2C_{vv}(\rho_s/\rho_w - 1)c(\cos \theta)}{F_r^2 C_{lv}}$	$\frac{2C_{vv}(\rho_s/\rho_w - 1)c(\cos \theta + \mu_s \sin \theta)}{F_r^2 C_{lv}}$	$\frac{2C_{vv}(\rho_s/\rho_w - 1)c}{F_r^2 [C_{lv} - \mu_s C_{dv}(c/b)]}$

For tsunami $F_r = 2$, for storms $F_r = 1$ (according to Nott's assumption)

The formulas given in the manuscript should be corrected if the authors referred to Nandasena et al. (2022).

Therefore, the formulas for storms should be given as:

Your first equation has typo – you need to fix it as follow.

Type of movement	SB/SA	JBB
Sliding	$H \geq \frac{2C_{vv}(\rho_s/\rho_w - 1)c(\mu_s \cos \theta + \sin \theta)}{[C_{dv}(c/b) + \mu_s C_{lv}]}$	-
Overturning	$H \geq \frac{2C_{vv}(\rho_s/\rho_w - 1)c(\cos \theta + (c/b)\sin \theta)}{[C_{dv}(c^2/b^2) + C_{lv}]}$	-
Saltation/ lifting	$H \geq \frac{2C_{vv}(\rho_s/\rho_w - 1)c(\cos \theta)}{C_{lv}}$	$H \geq \frac{2C_{vv}(\rho_s/\rho_w - 1)c(\cos \theta + \mu_s \sin \theta)}{C_{lv}}$