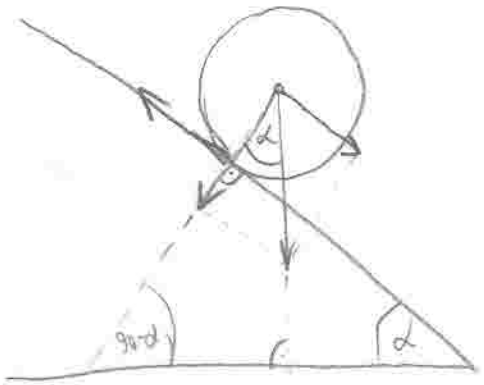

$m \cdot a = m \cdot g \cdot \sin\alpha - T$ ①

$I \cdot \varepsilon = T \cdot r$ ②

$a = \varepsilon \cdot r$ ③

$I = \frac{2}{5} m \cdot r^2$

③ do ②

$\varepsilon = \frac{a}{r}$

$I \cdot \varepsilon = T \cdot r$

$I \cdot \frac{a}{r} = T \cdot r$

$I \cdot a = T \cdot r^2$

$a = \frac{T \cdot r^2}{I}$

$m \cdot a + T = m \cdot g \cdot \sin\alpha$

$m \cdot \frac{T \cdot r^2}{I} + T = m \cdot g \cdot \sin\alpha$

$T \cdot \left(m \frac{r^2}{I} + 1\right) = m \cdot g \cdot \sin\alpha$

$T = \frac{m \cdot g \cdot \sin\alpha}{\frac{m \cdot r^2}{I} + 1}$

$T = \frac{m \cdot g \cdot \sin\alpha}{\frac{m \cdot r^2}{\frac{2}{5} m r^2} + 1}$

$T = \frac{m \cdot g \cdot \sin\alpha}{\frac{5}{2} + 1}$

$T = \frac{m \cdot g \cdot \sin\alpha}{\frac{7}{2}}$

$T = m \cdot g \cdot \cos\alpha \cdot f$

$m \cdot g \cdot \cos\alpha \cdot f \cdot \frac{7}{2} = m \cdot g \cdot \sin\alpha$

$\frac{7}{2} f = \frac{\sin\alpha}{\cos\alpha}$

$\frac{7}{2} f = \operatorname{tg}\alpha$

$\alpha = \operatorname{arctg}\left(\frac{7}{2} f\right)$

If angle α>arctg(7/2*f) then slip exists