

## Skidding of Object on a Rotating Platform.

On a rotating platform, to avoid the skidding of an object (mass  $m$ ) placed at a distance  $r$  from axis of rotation, the centripetal force should be provided by force of friction.

Centripetal force = Force of friction

$$m\omega^2 r = \mu mg$$

$$\therefore \omega_{\max} = \sqrt{(\mu g / r)},$$

Hence maximum angular velocity of rotation of the platform is  $\sqrt{(\mu g / r)}$ , so that object will not skid on it.