

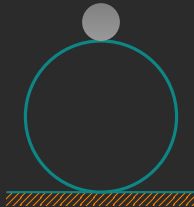
equilibrium



Stable

$$F = \frac{dU}{dr} = 0$$

$$\frac{d^2U}{dr^2} > 0$$



Unstable

$$F = \frac{dU}{dr} = 0$$

$$\frac{d^2U}{dr^2} < 0$$



Neutral

$$F = \frac{dU}{dr} = 0$$

$$\frac{d^2U}{dr^2} = 0$$