

# Attest the moment of inertia is wrong

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**Abstract:** Moment of inertia  $I = mr^2$  is wrong. In it of formula deduce process, have serious mistake. This is the can testify.

**Key Words:** Moment of inertia; Inertia-torque

According the expression:

$$\tau = I \cdot \alpha = m \cdot r^2 \cdot \frac{d\omega}{dt} \quad (01)$$

Here:  $m \cdot r^2$  namely is the Moment of inertia the " I " .

But by the expression ( 01 ) :

$$m \cdot r^2 \cdot \frac{d\omega}{dt} = m \cdot r \cdot r \cdot \frac{d\omega}{dt} = m \cdot r \cdot \frac{du}{dt} \quad (02)$$

So, in the ( 02 ) the  $m \cdot r$  and  $r \cdot \frac{d\omega}{dt}$  , two  $r$  is to differ.

In the  $m \cdot r$  , the  $r$  is the position vector of the object mass.

And that  $r \cdot \frac{d\omega}{dt}$  , the  $r$  is the position vector of the angular acceleration.

So, in the ( 02 ), none but the  $m \cdot r$  , is to bear on the inertia of the rotation.

And that  $r \cdot \frac{d\omega}{dt}$  , did not relate to with the inertia of the rotation.

So, Moment of inertia  $I = mr^2$  is wrong.

I will to the moment of inertia changes a name, that be called Inertia-torque.

Inertia-torque namely:  $I = mr$  ( 03 )

The  $I = mr^2$  is wrong. Because, the  $m$  changes with the inverse proportion of  $r^2$  at this time.

But in the nature, only have with light wave etc. That spherical wave spreads, change with the square inverse proportion of the space. The  $m$  changes with the inverse proportion of  $r$  , is absurd.

Inertia-torque:  $I = mr$  ( 03 ) and  $\tau = r \times ma$  analogy. In the R and M with the inverse proportion the change, its value is constant.

I attest the moment of inertia  $I = mr^2$  is wrong. Because this mistake, in rotation dynamics, engender a series of and important mistake. These are all to await in to the do correct.