Quiz 8 for PHYS 6220/7220, 23th November 2026

First Last

Student Name:

1. Write an expression for I_{yy}, the yy component of the inertia matrix, for a continuous body.

2. Write an expression for I_{yz}, the yz component of the inertia matrix, for a rigid body made of discrete points.

3. The perpendicular axis theorem, stated in the book, for the moment of inertia of a rigid body is applicable to what type of body?

4. When is a set of axes on a rigid body called its principal axes?

5. Write an expression for the kinetic energy of a rigid body in terms of its angular velocity $\boldsymbol{\omega}$ and its inertia matrix $\mathbf{I}^{M}$.