# Homework 8 for GPI

1. KK 6.32 （7.32）
2. KK 6.34 (7.34)
3. KK 6.39 (7.39)
4. KK 6.40 (7.40)
5. KK 7.1 (8.1)
6. KK 7.2 (8.2)
7. KK 7.3 (8.3)
8. KK 7.5 (8.5)
9. KK 7.6 (8.6)
10. KK 7.7 (8.7)
11. KK 7.10 (8.10) （Optional, it is not required for this class, since it essentially uses Euler equation; If you are interested, please read yourself: Gyrocompss example in KK, pg 301，1st edition (pg.307 in 2nd edition); or my lectureNote， pg260-263）
12. The finding of principal axes (Example 12.1 in Greiner's book: Classical Mechanics: System of particles and Hamiltonian Dynamics 2nd ed.) which is an easier version than the one I detailed in the class. Refer to the figure below:(ω in the figure is redundant here)
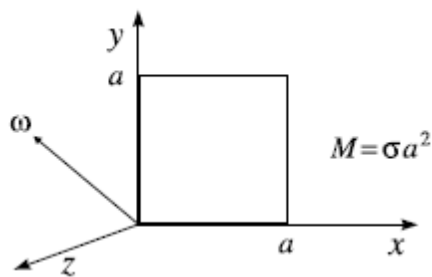
   For a square sheet (sheet means the thickness along z can be taken as zero) in x-y plane, the origin and axes are set in the figure. For this choice of frame, A) find out the matrix form of Moment of inertia tensor in this coordinates at this moment. B) Then determine the principal axes, and write the moment of inertia tensor in the frame using principal axes as coordinate axes.