

7-25. A hollow conical segment of half angle α , mass M and side length ℓ spins on a sharp pivot at its apex as shown. The cone is made from a uniform thin sheet and has an open base.

- a) The cone is initially rapidly spun clockwise as viewed from above with angular velocity ω_3 about the symmetry axis. Find the direction and rate of the slow precession in terms of M , g , I_3 and the distance z_0 of the CM from the apex.
- b) Calculate the principal moments, the location of the CM and the rate of slow precession.

