

HW assignment 14 (Due Wed Dec 8 at 7 p.m.by email).

Problem 1

Find the magnetic moment of the uniformly charged spherical shell (charge Q , radius R) spinning with angular velocity ω about the z axis.

Problem 2 (Pr. 5.55 from Griffiths)

A magnetic dipole $\vec{m} = -m_0\hat{e}_3$ is located at the origin, in an otherwise uniform magnetic field $\vec{B} = B_0\hat{e}_3$. Show that there exist a spherical surface (centered at the origin) through which no magnetic field lines pass and find the radius of this surface.