

Force and Torque on Electric Dipole



- The net force on an electric dipole in a *uniform* electric field vanishes.
- However, this dipole experiences a torque $\vec{\tau} = \vec{p} \times \vec{L}$ that tends to align the vector \vec{p} with the vector \vec{E} .
- Now consider an electric dipole that is already aligned (locally) with a *nonuniform* electric field. This dipole experiences a net force that is always in the direction where the field has the steepest increase.

