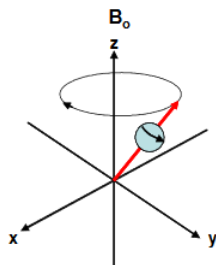


## 1.5: What is Precession?

A spinning charged particle creates a magnetic field, called the magnetic moment,  $\mu$ . This magnetic moment is a vector quantity that is proportional to the angular momentum:  $\mu = \gamma p$ . Because our nucleus has angular momentum, the magnetic moment, depicted as the red vector in the figure below, will appear to precess (or rotate) about the applied magnetic field  $B_o$ . This precession is analogous to the motion of a spinning top. The frequency of precession is dependent only on the type of nucleus (defined by the gyromagnetic ratio,  $\gamma$ ) and the value of  $B_{eff}$ , as defined in Equation 4.1. The precession of a single nucleus, depicted as a blue sphere spinning about its axis, is shown here.



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