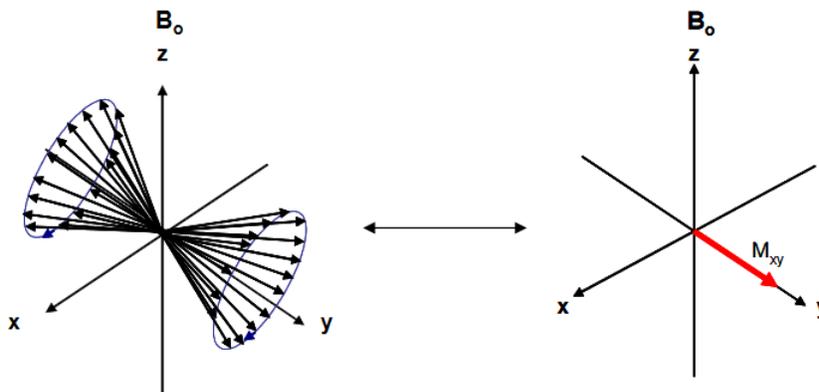


1.8: What is the tip angle?

The angle that the B_1 pulse tips the magnetization through depends on the power of the pulse and its length. For a given power setting, a tip angle, θ , (in radians) can be defined as $\theta = \gamma B_1 \tau$, where γ is the magnetogyric ratio and τ is the length of time the pulse is on. What we detect in the NMR experiment is the projection of the macroscopic magnetization vector, M_{xy} , into the xy plane of the NMR coordinate system. A 90° pulse will produce the greatest signal in the xy plane. The Figure below shows the effect of a 90° pulse on the spins.



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