

# Rotations and the Spin $1/2$ Particle in a Magnetic Field

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October 16, 2024

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## 1. Spinor Representation

# Spinor Representation

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# Some Motivation

- The existence of spin  $1/2$  particle shows that  $Spin(3)$  rather than  $SO(3)$  is the symmetry group corresponding of rotations of fundamental quantum systems.