

## **S18:    Advanced Quantum Mechanics**

I regret to say I am not aware of any book which would treat the topic of spinors in a fully satisfactory pedagogical manner. Some texts you may find useful are below. Spinor representations and connections between groups  $SU(2)$  and  $SO(3)$ ,  $SL(2,C)$  and  $SO(3,1)$  are discussed in courses on group theory. See, for example, materials (including lecture notes and book recommendations) of Prof Andre Lukas' course "Groups and Representations" at

<http://www-thphys.physics.ox.ac.uk/people/AndreLukas/GroupsandRepresentations/GroupsandRepresentations/index.html>

R. Penrose and W. Rindler, "*Spinors and space-time*", Chapter 1

L. Ryder, "*Quantum Field Theory*"

J. F. Cornwell, *Group theory in physics, volumes 1-3*

D. Z. Friedman and A. Van Proeyen, *Supergravity, Chapters 1-3*

A. Bincer, "*Lie groups & Lie algebras: A physicist's perspective*"

J. Hladik, "*Spinors in Physics*"

M. Peskin and D. Schroeder, "*An Introduction to Quantum Field Theory*"

R. Ticciati, "*Quantum Field Theory for Mathematicians*"

A. Barut and R. Raczka, "*Theory of group representations and applications*"