

Physics 002B In Search of Quantum Reality 1st-Year Seminar
Assignment #10 Tuesday November 10, 2009

Seminar Topic: Entanglement, EPR and Bell

Seminar Break: _____

Readings: Boccio ---- 16_Entanglement_EPR_Bell(URL in email)
Herbert --- Chapter 11 The EPR Paradox
Rosenblum - Chapter 11 Schrodinger's Controversial Cat
Scarani --- Chapter 07 On the Origin of Correlations

Seminar will consist of:

- (1) Presentations by students
- (2) Mini-Lectures by instructor to help with understanding of more difficult ideas as they arise during the seminar

Each student should become an **expert** in their own part of the readings so that their presentation(10 minutes using a Document camera) can be both **informative and interesting**. **Everyone** should do **ALL** the readings so everyone can **assume** that other seminar participants have at least read the material they will be presenting, even though they may not have fully understood it and/or put it into a general context. The **goal** of each seminar is that everyone **fully understand** all then readings for each week, including all of the **implications and ramifications**.

Presentations:

Boccio

16_Entanglement_EPR_Bell

Pages 01-09 Entanglement and EPR #1	_____	&_Professor_
Pages 09-14 Multiparticle States Redux	_____	&_Professor_
Pages 14-20 EPR #2	_____	
Pages 20-26 More Serious and Experiment #1	_____	
Pages 26-33 Bohr and Einstein #1	_____	
Pages 33-47 Entanglements, Measurements, Cats and Friends	_____	
Pages 47-56 Bell #1 and Aspect Experiment	_____	
Pages 56-63 Bell #2	_____	
Pages 63-75 Density Operators Redux, Explaining EPR, Bell and Measurement	_____	& _____ &_Professor_

Herbert --- Chapter 11

Rosenblum - Chapter 11