

Physics 002B              In Search of Quantum Reality 1st-Year Seminar  
Assignment #11              Tuesday November 17, 2009

Seminar Topic: Entanglement, EPR and Bell - Part 2

Seminar Break: \_\_\_\_\_

Readings: **Boccio** ---- 17\_EPR\_Bell\_Details(URL in email)  
   18\_Erasers and Pots(URL in email)  
                         **Herbert** --- Chapter 12 Bell's Interconnectedness  
                         **Rosenblum** - Chapter 12 Seeking a Real World:EPR  
   Chapter 13 Spooky Actions: Bell's Theorem  
                         **Scarani** --- Chapter 08 Orsay, Innsbruck and Geneva

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 01-07	Experimental Details	_____
Pages 07-17	Mach-Zehnder Again	_____ &_Professor_
Pages 17-22	Review of Formalism	_____
Pages 22-28	Inseparable Photons(EPR)	_____
Pages 28-37	EPR, BCSC and Bell	_____ &_Professor_
Pages 37-42	Aspect Experiment Redux	_____
Pages 42-48	More Experiments and Thoughts	_____

**18\_Erasers and Pots**

Pages 01-08	Quantum Eraser	_____
Pages 09-13	Watching the Pot	_____

**Herbert** --- Chapter 12 \_\_\_\_\_

**Rosenblum** - Chapter 12 \_\_\_\_\_

**Rosenblum** - Chapter 13 \_\_\_\_\_