

Homework 12

Reading for Spring Break

We are not going to give you any written homework for Spring Break. Even this week's lab will be written up in the lab session, giving you nothing hanging over you. But, we will ask you to do some reading, so that we can hit the ground running right after break. Details from this reading are things we might ask you about on the second exam, so we advise taking notes on your reading.

1. We have given you the detailed description of the NIST-F1 Cesium Fountain Clock from the NIST website. Re-read this, along with pp. 57 - 61 & pp. 78 - 87 of J & F-R to try to understand the details of this international time standard. (Bear in mind that this was written in 1999.) You should jot down any questions you still have about the processes.
2. Read Chapters 9 - 11 of J & F-R to acquaint yourself with the history of time standards and how they are disseminated. We will revisit many of these issues when we talk about the current system of time and GPS signals in our satellite-heavy age. Again, bear in mind that J & F-R wrote the text in 1999, which was a technologically different era.
3. Read Chapter 8 of Rovelli to wrap up the central section of the book, called *The World without Time*. As he told us in the early part of the book, having used physics to show us that most of our common sense ideas about time are misguided, Rovelli will now switch to a constructive agenda about what we *can* say about time.