Contribution ID: **5** Type: **not specified**

How well can we find out whether a wave function has collapsed?

Wednesday, 24 May 2017 12:40 (40 minutes)

In this talk, I focus on a question that is slightly different from testing collapse models: We know that "quantum measurements" are not measurements in the usual meaning of the word. So how about measurements, in the usual meaning of the word, in a collapse model? For example, if GRW theory were true, then how could we measure the number of collapses that have occurred in a given physical system in a given time interval? I provide a mathematical analysis of some simple cases. It turns out that there are limitations to knowledge—that is, that some well-defined quantities cannot be reliably measured empirically. Such a situation may seem philosophically problematical, but I will argue that it is not. This is joint work with Charles Wesley Cowan

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