

Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Making An Observation Without Making An Observation: “Seeing” Knowledge Embedded In The Physical World With One’s Own Eyes
DOUGLAS SNYDER, None — In a null measurement (nm) in quantum mechanics, there is NO interaction between a physical measuring apparatus (pma) and the physical system measured. A form of quantum jumps known as electron shelving is an example of a nm. In electron shelving there are 2 possible transitions to higher energy levels from a common lower level energy state for a single ion. One possible transition is very quick and visible to the eye in terms of fluorescence of the ion due to the rapidity of the rate of transition from the lower level 0 to level 1 and back (strong transition [st]). The other transition from level 0 to level 2 is very slow relative to the st and creates a gap in the fluorescence long enough so that one “see” the gap with one’s eyes with the aid of a crude microscope. This gap in the fluorescence is a nm. There is no detection of the weak transition (wt) using a pma. The logical deduction in the gap in the fluorescence is that the st did not occur and therefore the wt did occur. This knowledge from the logical deduction that is embedded in the physical world is what is “seen” when a person looks at the gap. The wt is known to occur through proving that the st did not occur.

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None

Date submitted: 19 Jan 2021

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