Abstract Submitted for the APR21 Meeting of The American Physical Society

On Calculating the Mass of a Finite Universe PAUL OBRIEN¹, APS — My claim is that any Universe that has observers must be finite, such that any two Observers will agree on the measurement of the constants and conserved values at any time or place to be the same. Therefore, all observers inside some defined and measurable holographic horizon must agree on the conserved values of Mass and quantum information as measured by the agreed upon constants. This is both knowable and provable using the speed of light, gravitational constant, and an entropy constant such as Boltzmann's constant, that is properly quantized. My claim is so strong that it cannot be proven to be false within the defined boundaries! The first thing to be agreed upon is the measure of a quantum of energy to be defined as $(c^2)(Planck mass)/(O_b)$ measured as (1) Thermal degree of Freedom. Where $(O_b) = |(Planck mass)/(Planck area)|$.

¹On Calculating the Mass of a Finite Universe

Paul OBrien APS

Date submitted: 11 Jan 2021

Electronic form version 1.4