## Abstract Submitted for the MAS14 Meeting of The American Physical Society

Direct Calculation of Size and Mass of Universe using Speed of Light and Gravatational Constant PAUL OBRIEN, None — How I calculated the mass and size of the universe. My theory says the universe we live in started as a so called black hole that is imploding. The size and mass of this original black hole is what I calculated. The equation is very similar to  $E=MC^2$ . The underlying basis for my equation is mass, length, and time, which after all is the only real variables we can measure. At first sight I thought my units were all wrong, until you consider black whole thermodynamics. First I calculated the radius of this original black hole using  $C^2/G$  (Speed of light<sup>2</sup>)/Gravitational constant = 1.34668374e+27 Kg/m As you can see the units are in Kg/m which would appear incorrect. But black whole thermodynamics stipulates that the mass of a black hole is a function of it surface area. That means that for the specific case of black holes, mass does becomes equivalent to surface area, so by equality you can substitute mass with area. This sounds bizarre but it is true for black holes. Mass = surface area, and in metric units  $Kg = m^2$ . When you go back to my equation and do the substitution you get your radius in meters (Speed of light<sup>2</sup>)/Gravitational constant = 1.34668374e+27 $m^2/m = 1.34668374e + 27 m$  Thus the mass of our universe becomes Radius\*C<sup>2</sup>/2G= 9.0677855e+53 Kg

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