Dear Mr. Susskind, The maximum number of micro-states in a Planck mass PAUL OBRIEN, APS memeber — Professor Leonard Susskind is the greatest living physicist today, IMO. The Black Hole War inspired my greatest idea. What if the Mass of a BH was distributed across the Schwarzschild horizon, like an infinitely thin soap bubble? It turns out not to be true, but it made me think about distributing mass on a 2D surface. I found a density function for a 2D surface. The Schwarzschild BH metric is quantized by the Planck length, and thus is 1D. The maximum density is $M_p/2L_p$ measured by radius. At this density, confinement of 2 or more, leads to a larger BH with lower density and temperature. In 2D, the maximum density is double that of 1D. Orthogonality enables encoding 2 orthogonal properties of Mass and Energy with a single quantum, equal to a Planck area. The ability to encode both, gives us thermal density and entropy. Both are density functions. The Holographic density function describes our Universe as a BH with 1DOF but also any number of DOF up to the maximum density allowed. This rule forbids singularities and defines a finite space-time. The initial condition for our universe is describable as quantum computer in(2+1)D the size of a speck of dust @ max density. Jacob Bekenstein would be proud.

Paul OBrien
APS memeber