

Abstract Submitted  
for the APR15 Meeting of  
The American Physical Society

**An intrinsic property of memory of the Cellular automaton infrastructure of Nature leading to the organization of the physical world as an Internet of things; TOE=IOT** SIMON BERKOVICH, The George Washington University — The fundamental advantage of a Cellular automaton construction is that it can be viewed as an undetectable absolute frame of reference, in accordance with Lorentz-Poincaré's interpretation. The cellular automaton model for physical problems comes upon two basic hurdles: (1) How to find the Elemental Rule that, and how to get non-locality from local transformations. Both problems are resolved considering the transformation rule of mutual distributed synchronization [1] Actually any information processing device starts with a clocking system. and it turns out that "All physical phenomena are different aspects of the high-level description of distributed mutual synchronization in a network of digital clocks" [1]. Non-locality comes from two hugely different time-scales of signaling. The universe is a combination of information and matter processes, These fast spreading diffusion wave solutions create the mechanism of the Holographic Universe. And thirdly Disengaged from synchronization, circular counters can perform memory functions by retaining phases of their oscillations, an idea of Von Neumann' [2]. Thus, the suggested model generates the necessary constructs for the physical world as an Internet of Things. Life emerges due to the specifics of macromolecules that serve as communication means, with the holographic memory... [1] Jingzheng Qin, "Elementary Particles of Matter in a Cellular Automaton Framework", GWU, Master thesis, May 2012, <http://pqdtopen.proquest.com/#abstract?dispub=1510409> [2] Von Neumann, **Patent 2815488, 1954.**

Simon Berkovich  
The George Washington university

Date submitted: 30 Nov 2014

Electronic form version 1.4