

Cantorian Micro-type Black Holes as the Fundamental Building Blocks of Spacetime

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Date of publication (dd/mm/yyyy): 09/12/2020

Abstract – We introduce a mini black hole that is akin to what Stephen Hawking postulated around 1971. The idea is obviously connected to several related hypothetical concepts such as the plankton and Brandon Carter electron black holes. The present proposal may be best described as a Cantorian topological black hole fully specified by a golden mean zero set Hausdorff dimension $\phi = (\sqrt{5} - 1)/2$ and an event horizon given by the empty set Hausdorff dimension ϕ^2 . Thus the basic idea is not that far from G. 'tHooft's black hole interpretation of string theory. Put differently a Cantorian mini black hole is practically equal to an E-infinity pre-quantum particle connect to 'tHooft's renormalon. In other words, the golden mean does not pop up in black hole theory but it is rather the proper characterization of a mini black hole.

Keywords – Mini Black Holes, Golden Mean Spirals, Cantorian, Topological Black Holes, Brandon Carter Plankton, Thooft Black Holes Interpretation of String Theory, Von Neumann-Connes-Penrose-El Naschie Model of Non-commutative Penrose Fractal Tiling Universe.

I. INTRODUCTION AND ANALYSIS

The present work and insights are basically anchored in a deep theory of knowledge that could be recapitulated in the following highly simplified manner:

1. Nature is self similar.
2. Ergo nature is fractal.
3. At a fundamental basic level it follows that mathematics is physics and becomes a different label for the very same reality.
4. From the above it follows indirectly that at a fundamental level body and soul are one and the same.
5. With increasing the sharpness of the observational scale we reach the stage where thoughts and non-thoughts become indistinguishable.
6. Having gone that far we reach an almost final stage where logic becomes fractal and so becomes counting.
7. Without going into the nitty gritty details, the previous six stages directly imply that the golden mean transfinite computer of E-infinity theory is far more effective than any quantum computer apart from it costing practically nothing.

It is more or less the preceding framework of thinking which allowed us to discover that while the golden mean enters our computation in a complex way for ordinary black holes with stellar mass, there is another surprising possibility for the so called mini or micro black holes. In this case the present author discovered that these mini black holes are essentially pre-quantum particle zero sets with a pre-quantum wave empty set as cobordism playing de facto the role of a mini black hole event horizon.

That is in essence the amazing discovery and amazing simplification gained from an otherwise complex begi-

-ning of black hole theory. It is all because of our present fortunate way of looking at mini black holes with all fundamental interactions as well as gravity included [1-4]. That way we found what we may label it von Neumann-Connes-Penrose-El Naschie model of non-commutative Penrose fractal tiling universe [5]. (See Fig. 1 of Ref. [9] for deeper understanding of the classical-quantum interface theory.



II. CONCLUSION

There are many hints of novel objects for instance planet 9 with a mass qualifying for a primordial black hole. However the discovery of the equivalence of mini black holes and E-infinity pre-quantum particles and pre-quantum waves is at a minimum astounding. The finding is equivalent to saying that the golden mean spirals are the basic building blocks of nature so that the number ϕ as well as ϕ^2 connected to the zero set $(0; \phi)$ and the empty set $(-1; \phi^2)$ are real and physical as well as part and parcel of a general theory of mini black holes [1-18].

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AUTHOR'S PROFILE



Professor M.S. El Naschie was born in Cairo, Egypt on 10th October 1943. He received his elementary education in Egypt. He then moved to Germany where he received his college education and then his undergraduate education at the Technical University of Hannover where he earned his (Dipl-Ing) diploma, equivalent to a Master's degree in Engineering plus being a professional chartered engineer. After that he moved to the UK where he enlisted as a post graduate student in the stability research group of the late Lord Henry Chilver and obtained his Ph.D. degree in structural mechanics under the supervision of Professor J.M.T. Thompson, FRS. After his promotions up to the rank of full professor, he held various positions in the UK, Saudi Arabia and USA and was a visiting professor, senior scholar or adjunct professor in Surrey University, UK, Cornell, USA, Cambridge University, UK and Cairo University, Egypt. In 2012 he ran for the Presidency of Egypt but withdrew at the final stage and returned to academia and his beloved scientific research. He is presently a Distinguished Professor at the Dept. of Physics, Faculty of Science of the University of Alexandria, Egypt. Professor El Naschie is well known for his research in structural stability in engineering as well as for his work on high energy physics and more recently for his work in cosmology and elucidation of the secret of dark energy and dark matter as well as for proposing a dark energy Casimir nanoreactor and a fuelless interstellar spaceship. He is the creator of E-infinity theory, which is a physical theory based on random Cantor sets and can be applied to micro, macro and mesoscopic systems. Professor El Naschie is the single or joint author of about one thousand publications in engineering, physics, mathematics, cosmology and political science. His current h-index is 83 and his i-10 index is 798 and total citations are 37162 according to Google Scholar Citation.