Referee report on « TOPOLOGICAL ORIGIN OF INERTIA »
by Igor Bogdanoff

In this paper the author attempts to describe the inertial interaction within the Witten model of topological field theory. The main result of the paper is based on the construction of a high temperature topological limit of supergravity and the possibility to find the corresponding gravitational instanton moduli space. It is proposed to explain the inertial interaction using the topological amplitude connected with the topological charge of the singular gravitational instanton. As a consequence, the topological Mach's principle is formulated. There are several supporting examples presented in the following part of the paper.

In my opinion the results of the paper can be considered as original ones. I recommend the paper for publication but in a revised form. The author should check the following list of remarks and corrections l :

(a) p.4 (the last paragraph) –« We begin by «shoving » = showing
(b) p.6 (top) « cycles in module space =moduli (?) -please check next occurrences in the paper.
(c) p.6 eq (7) –missing definition of η
(d) p 7 above eq.(8) in the text – missing definition of η
(e) p 8 eq. (12) –typo $W_{kl} = W_{ki}$ –missing definition of W_{kl} , please describe more specifically eqs.(12,13,14,15) from point of view of your model.
(f) p 10. eq.(18) -typos
(g) p 17. eq (42), p18 eq.(44), p.19 eq. (47) – please check the symbol **a**
(h) p 28. ref. (8) « blobal »= global