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SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Physical Review & Research International
Manuscript Number:	**2013_PRRI_3745**
Title of the Manuscript:	**Form of nonequilibrium statistical operator, thermodynamic flows and entropy production**

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
Referee report on revised 2013-PRRI-3745 "Form of nonequilibrium statistical operator, thermodynamic flows and entropy production", by V.V.Ryazanov, submitted to Physical Review Research International **The author does not answer satisfactorily any my question or remark. From the formal point of view the paper is not well written.** **I think that the paper cannot be published in the Physical Review Research International. Nevertheless, in the following there are some remarks and suggestions.** **1.) Any new physical theory should satisfy the correspondence principle of physics. Therefore, in the limit $t-t_{0}\to\infty$ the non-equilibrium statistical operator with the distribution function $p_{q}(t)$ should recover the non-equilibrium statistical operator which satisfies the Liouville equation without sources. To prove this the author should demonstrate the Abel's theorem for arbitrary function $p_{q}(t)$:** **\begin{equation}\nonumber** **\lim_{T\to\infty} \frac{1}{T} \int_{-T}^{0} f(t) dt = \lim_{\varepsilon\to +0} \int_{-\infty}^{0} p_{q}(t) f(t) dt, \qquad p_{q}(t)=\varphi(\varepsilon,t).** **\end{equation}** **If the function $p_{q}(t)$ does not satisfy the Abel's theorem then the correspondence principle of physics is violated.** **2.) The same should be proved for the function $p_{q}(u,t)$.** **3.) I see the fundamental contradiction in the application of the maximum entropy principle to the explicit calculations of the distribution function $p_{q}(u,t)$ of the non-equilibrium statistical operator. The maximum entropy principle is related only to the equilibrium states and can not be applied to the non-equilibrium states which are described by the non-equilibrium statistical operator. Here is a contradiction.** **4.) In present paper the section "Conclusion" is similar to the section "Introduction". The author's conclusions are not clearly stated. In a good "Conclusion", the author discusses the obtained results. He/She should show how his/her results agree (or contrast) with previously published works. The obtained results and the conclusions suggested by the results should be clearly stated.** **5.) English of the paper should be essentially improved. The formulas should be written more accurately. The unnecessary symbols should be replaced from the formulas. I insistently recommend the author to use the LaTex programme writing the text of the papers instead of the Word programme.**	

Note: Anonymous Reviewer