



SDI Review Form 1.6

PART 1:

Journal Name:	Physical Review & Research International
Manuscript Number:	MS: 2012_PRR1 2898
Title of the Manuscript:	Quantum Effects on Rayleigh-Taylor instability of a plasma-vacuum.

General guideline for Peer Review process is available in this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



SDI Review Form 1.6

PART 2: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<u>Compulsory</u> REVISION comments	<p>Statement of the interface problem is inaccurate and, formally, even incorrect. The original interface problem is a free boundary problem and, therefore, the boundary conditions (4), (7), (8) should be stated on the free surface $z=\eta(x,y,t)$ but not at $z=0$. However, if the author from the very beginning formulate the boundary conditions on the fixed boundary $z=0$, it means that the change of variable $z'=z-\eta(x,y,t)$ was performed and after omitting the prime in z' the interface has the form $z=0$. But, in this case the equations (1)-(3), (5) should be changed under the above transformation $z'=z-\eta(x,y,t)$ (the transformed equations (1)-(3), (5) contain the derivatives of η).</p> <p>The easiest way to correct this mistake is just to write in (4) $z = \eta(x,y,t)$ instead of $z=0$ (actually, in the paper it is written z_0 that seems to be a misprint). Fortunately for the author this mistake does not affect the linearized problem thanks to the simple form of the unperturbed solution: $U_0=0, \rho_0=\rho_0(z), \eta_0=0$.</p> <p>However, in spite of the mentioned formal mistake, the results of the paper showing a stabilizing role of the quantum effect are important and can be published after a technical revision.</p> <p>The revision should essentially improves the presentation. For the reader's convenience the references to [25, 26] are not enough while speaking about quantum effects, the quantum pressure Q should be explicitly written in the paper as well as its perturbation mentioned after (13) and (19) (maybe, as in [26] it is</p>	



SDI Review Form 1.6

	reasonable to write Appendix). Before or after (10)-(13) it is necessary to describe the unperturbed flow in more details, e.g., $U_0=0$, $\eta_0=0$, etc.	
Minor REVISION comments	The author should check the manuscript with regard to possible misprints. One example: It seems after (8) the formula $f=z-\eta(x,y,t,z_0)$ should be replaced with $f=z-\eta(x,y,t)$ (maybe the author meant $\eta(x,y,t, z=0)$ (?), but this is really unnecessary because the function η does not depend on z). The English language should be essentially improved. For example, in Abstract "The results are shown that, the interface is more stability..." should be replaced with "The results show that the interface is more stable..."	
Optional/General comments	In general, presentation is somewhere careless and needs essential improvements (see Compulsory and Minor revision comments).	

Note: Anonymous Reviewer