



**SDI Review Form 1.6**

Journal Name:	<a href="#">Physical Science International Journal</a>
Manuscript Number:	2014_PSIJ_9605
Title of the Manuscript:	<b>The magnetized plasma effect on cathode fall thickness for helium gas discharge</b>
Type of the Article	

**General guideline for Peer Review process:**

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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



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### PART 1: 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)
<b>Compulsory</b> REVISION comments	<p>In this article the authors investigated the radial and axial distributions of electron densities and temperatures in presence and absence of permanent magnetic field for a helium gas discharge. The main contribution is related to the use of another gas than argon, which had been before published. The suggested modifications are given below:</p> <ol style="list-style-type: none"> <li>1. Introduction requires a deeper state of the art study.</li> <li>2. A schematic diagram of WHOLE experimental setup will facilitate readers understanding.</li> <li>3. Why given experimental results do not cover all experimental pressure range 0.27–4 mbar claimed in abstract?</li> <li>4. The manuscript is needed to be improved in several aspects (grammar, format, punctuation, figures edition), e.g. in introduction is it written: "...behavior of plasma in a magnetic field has been an important problem in many" ... " because the application of a magnetic field results in enhancement of some desirable features". Is really plasma behavior in a magnetic field a problem? "An experimental and theoretical studies of..." Is it supported on only one experiment and several theoretical studies? etc.</li> <li>5. In abstract it is established that "The thickness of the cathode fall region was between 1 and 2.5 mm..." but in conclusion, it can be read " ...the thickness of the cathode fall region (dc) was about 2.5-3.5 mm..."</li> <li>7. References not Refrences must be corrected and standardized.</li> </ol>	<p>1- And 4-</p> <p>Low-temperature plasma generators are extensively used in different branches of industry, and the technological processes developed on their basis have been long applied at many project. One of the possible ways of raising energy and efficiency of plasma technologies is the use of magnetic field.</p> <p>Recently, the performance of plasma in magnetic field has been improved in many non-equilibrium glow discharge plasma, used in dispensation of semiconductor materials for many processes such as etching and coating, because the application of a magnetic field results in enhancement of some attractive features of specific plasma sources [1].</p> <p>2- Corrected</p> <p>3- Where experimental results cover experimental pressure range from 1–4 mbar only, because of at less than 1 mbar, the axial potential</p>



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		<p>distribution has been measured by single probe, suffer difficulties to initiate at the edge due to the reduction of the cathode fall, in addition the sheath , dust plasma and contamination around the probe leads to difficulties in measuring the potential between the probe and the cathode.</p> <p>5- It is concluded that a notice reduction of the CF thickness (about 20%) has been found in the presence of the magnetic field at the center of the cathode and (about 37%) at the edge.</p> <p>6- Corrected</p> <p>7- All the comments added to the manuscript</p>
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