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Journal Name:	**Physical Science International Journal**
Manuscript Number:	**Ms_PSIJ_42783**
Title of the Manuscript:	**An elastic-plastic finite element analysis of two interfering hemispheres sliding in frictionless contact**
Type of the Article	**Original Research 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.
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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)*
Compulsory REVISION comments	**This work is an interesting work, however there are some issues to be clearly explained as following** **1. page4 line9, tridimensional should be three-dimensional;** **2. page 4 line 17 defined in [32], should be "defined in reference [32]".** **3. page 5, R1=R2=1m, then equivalent radius R=0.5m as deduced from equation(3), and then equation (8) can be deduced as $U_c = \frac{\pi(CS_y)^5}{480E'^4}$, is it? so why not deduce it to a simple formula** **4. in page 5, the equivalent modulus of elasticity $E' = 0.5 * (\frac{E1}{1-\nu^2}) = \frac{0.5*200}{1-0.32*0.32} = 111GPa$(bulk elastic modulus), in page 7 E is E1 or E' in equation(4), it should be pointed out, or else it confuses the readers.** **5. page 5, equation (2) is expressed as : $\frac{\sigma_e}{p_0} = \frac{1}{2}\sqrt{[(1-2\upsilon-2\xi^2(1+2\upsilon)+2(\xi+\xi^3)(1+\nu)\mathrm{arccot}(\xi)]^2/(1+\xi^2)^2} = \frac{1}{2}\frac{(1-2\upsilon-2\xi^2(1+2\upsilon)+2(\xi+\xi^3)(1+\nu)\mathrm{arccot}(\xi)}{(1+\xi^2)}$, is it? you should make sure this equation.** **6. page 5 equation (3) R1 and R2 should be pointed by schematic figure. equation (4) is the same situation.** **7. page 5, equation (5) and (6) are got from others or by empirical formula based on experimental data.** **8. page 17, figure 3 b),the maximum Mises stress reaches 1.04E9Pa which is higher than yielding strength of the steel (915MPa), and Page 18 Figure 4b has the similar result of 378MPa > 310MPa of Al. Under such condition, the increment theory should be employed to explained this phenomenon, but in the article, I didn't find increment theory, can you explain why. In addition, in the model , you didn't introduce the stress-strain relationship during plasticity processing.** **9. page 23 Figure 7 shows us the plasticity deformation, however, in the previous page the plastic model and plasticity parameter doesn't be presented.** **10. page 29, the author should explain why the curve Fy/Pc is not a symmetrical figure, and what reason causes this displacement (in Figure 12 and Figure 13).** **11. Energy loss in equation (9) is only a two-dimensional model, and the energy loss in y direction can't be neglected in the model.** **12. page 44-50, in Figure 24-28, actually, the data used in SAW model were also obtained from Abaqus calculating, which has senseless meaning for comparison, isn't it. I suggest to delete these comparison.**	
Minor REVISION comments		
Optional/General comments		

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