



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	Physical Science International Journal
Manuscript Number:	2013_PRR1_5713
Title of the Manuscript:	Vibration Technique for Processing and Monitoring Electrical and Mechanical Defects in Electrical Drives Using 2-D Mathematical Model

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
<p>Actually, in the second step I send you TWO files:</p> <ul style="list-style-type: none"> - a .pdf one, with the old corrections, since you didn't receive it - a .doc one, with the new corrections. <p>In the file I received, there still are some mistakes that I highlighted in the .pdf file, as if you had considered only the .doc file, and you hadn't considered the .pdf file.</p> <p>Please, look also at the .pdf file.</p> <p>1- line 23 ,Why does the overheating cause magnetic asymmetry</p> <p>2- line 49,what type?please, tell it</p> <p>3- line 53,not clear</p> <p>4- line 61,Capital letter</p> <p>5- line 64,centered</p> <p>6- line 63 and 64,if, and if</p> <p>7- line 85,What does it mean? does it mean "in the stator reference frame"?</p> <p>8- line 89, Please, state that teta is the stator angle, and it is mechanical (not electrical)</p> <p>9- line 94,What are Xn and Yn?</p> <p>10- line 97 ,not clear. Can you explain better?</p> <p>11- line 116,What is the "fractional eccentricity"? Do you mean a per unit eccentricity i.e. $E = E/g$? Please, state it</p> <p>12- line 121,should it be E_g?</p> <p>13- line 127,What does it mean? does it mean "in the stator reference frame"?</p> <p>14- line 138,I think F is missing</p> <p>15- line 149,Dr or Dn?</p> <p>16- line 163,In order to validate your proposed analitycal model, you have to add the comparison between these tests and the model results</p> <p>17- line 164,add: "with no eccentricity"</p> <p>18- line 168, In order to validate your proposed analitycal model, you have to add the comparison between these tests and the model results</p> <p>19- line 170, replace: "As in Fig.2, but "</p> <p>20- line 172-177,It is repeated below</p> <p>21- line 181,not clear</p> <p>22- line 186,In order to validate your proposed analitycal model, you have to add the comparison between these model results and the experimental results</p>	<p>Both .Doc file and pdf.file are definitely considered.</p> <p>Again PDF file is considered below</p> <p>1- Done (Line 40-44)</p> <p>2- Done (Line 72)</p> <p>3- Please, do have a look on figure 1, it is very clear .However I will try to get the point in more details:</p> <p>Four-pole cylindrical rotor synchronous machine with a specially prepared rotor. Each slot pair contains one concentric coil, which, in one of the poles is divided into 4 smaller coils of 14, 26, 39 and 52 turns. The field windings consist typically of three pairs of slots (slots af' contains $14 + 26 + 39 + 52 = 131$ turns, slots be' contains $14 + 26 + 39 + 52 = 131$ turns and slots cd' contains $14 + 26 + 39 + 52 = 131$ turns) for each pole (see Fig. 1). Each slot pair contains one concentric coil, which, in one of the poles is divided into 4 smaller coils of 14, 26, 39 and 52 turns. The coil pitches are 30° (af' mechanical = $15^\circ + 15^\circ = 30^\circ$), 54° (be' mechanical = $27^\circ + 27^\circ = 54^\circ$) and 78° (cd' mechanical = $39^\circ + 39^\circ = 78^\circ$).</p> <p>4- Done (Line 85)</p> <p>5- Done (Line 88)</p> <p>6- Done (Line 87 , 88)</p> <p>7- Done Yes</p> <p>8- It is already given that coils of span 2γ mechanical radians, and thus all angles θ, ϕ, γ are automatically in mechanical and not electrical in the mathematical model,</p> <p>9- Done</p> <p>10- Done</p> <p>11- Done</p> <p>12- Done</p> <p>13- Done yes</p> <p>14- Done</p> <p>15- Done</p> <p>16- Done</p> <p>17- Done</p> <p>18- Done</p> <p>19- Figs 2 and 3 in the previous version are not the same , they are totally different , Fig 2 is only done with shorted turns, while fig,3 is only with eccentricity so we cannot say " As in Fig.2 but with 20% eccentricity " but it should be titled as in Fig.4 " Experimental EMF with 20% eccentricity and no shorted turns (Gain 100).</p> <p>20- Done</p> <p>21- Done</p> <p>22- Done</p> <p>23- Done</p> <p>24- Done</p> <p>25- Done</p> <p>26- Done</p> <p>26- Done</p> <p>27- Done</p> <p>28- Done</p>



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<p>23- line 188, What does it mean "the use of only two harmonics"?</p> <p>24- line 191, Does it happen so? I mean, is it true that "such ratio varies monotonically with the pitch of the faulty coil"? Otherwise, it is not true that "we have a means of determining the fault location". Please, comment</p> <p>25- line 196, You cannot say "it should be possible": or you show me how you can do it, or you say nothing</p> <p>26- line 204, Actually, I disagree, because you do not show a comparison between the model results and the test results</p> <p>26- line 208, To my opinion, all these issues are not demonstrated in the paper</p> <p>27- line 209, Which are?</p> <p>28- line 211, Which are?</p> <p>29- line 211, What does it mean "should be avoided"? These harmonics occur in the machine operation. How can you avoid them?</p>	<p>29- Done</p>
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