



SDI Review Form 1.6

Journal Name:	Physical Science International Journal
Manuscript Number:	Ms_PSIJ_22868
Title of the Manuscript:	Spectrum Diagnostics of a Damaged Differential Planetary Gear during Various Operating Conditions
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>)



SDI Review Form 1.6

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)
<u>Compulsory</u> REVISION comments	This paper introduces spectrum diagnostics approach to planetary gear. Joint time-frequency analysis to transient start-up condition is carried out to detect the influence from backlash and chipped gear. This spectrum diagnostics is convenient for engineering application. However, the detail of multi-body kinematic formulations in the section 2 and modelling in section 3 are not introduced. The working condition of dynamic response in section 4 and 5 are suggested to be presented. Moreover, experiment is suggested to be done and compared with the simulation results.	We wish to thank the reviewer for this constructive feedback. To address concerns about section 2 and 3 we have changed the section heading, some figure titles, and clarified some embedded text. It was not the authors' intention to validate the general theoretical method of multibody kinematic formulation. Our headings may have led to this confusion. In this study we use a widely accepted software package, ADAMS, and define our inputs to that package and how we tuned the results to match published data (ref. [10]). The details we provide in our section are those that are most pertinent to the ADAMS formulation. The wording in section 4 and 5 has been changed to address the concern of lack of specificity regarding the working condition of the dynamic response. We have clarified that the case chosen is one of a missing tooth. We also include citations back to earlier sections where system parameters are defined. The authors certainly appreciate the value of experimental results. That is the reason we presented our model results versus published data in section 2. After this validation was presented we introduced changes in the theoretical model. Future work is planned to include experimental data but complete experimental replication was outside the intended scope of this research.
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments		