

**ReviewForm3**

JournalName:	<b>ArchivesofCurrentResearchInternational</b>
ManuscriptNumber:	<b>Ms_ACRI_126863</b>
TitleoftheManuscript:	<b>Amoredetailedphysicalexplanationofan aircraftfluttermechanism- PartII:Theconceptof StructuralActuatorSaturation</b>
TypeoftheArticle	<b>Researcharticle</b>

**PART1: ReviewComments**

<b>Compulsory</b> REVISIONcomments	<b>Reviewer'scomment</b>	<b>Author'sFeedback</b> (Pleasecorrectthemanuscriptandhighlightthatpart inthemanuscript.Itismandatorythatauthorsshouldwritehis/herfeedback here)
<p><b>Pleasewritea fewsentencesregardingtheimportance ofthismanuscriptfor thescientificcommunity.Whydo (ordislike)thismanuscript?Aminimumof sentencesmayberequiredforthispart.</b></p> <p style="text-align: right;"><b>youlike 3-4</b></p>	<p>Thismanuscriptissignificantforthe scientificcommunityasitaddressesa longstandinggapin understandingthe physicalmechanismsbehindflutterinaircraft,anareaoftendominatedbymathematicalmodelswithlimited physicalinterpretation.Byintroducingtheconceptof structuralactuatorsaturationandits impactonphase variationandinstability,the paperprovidesaperspectivehatcanenhancecurrentaeroelasticanalysis methods.I appreciateithemanuscript'sefforttobridgetheoreticalaeroelasticprincipleswithtangible,physical explanations,makingit moreaccessibleforresearchersseekingtodeepenetheircomprehensionofflutter mechanisms.However,whiletheapproachisinnovative,certainsectionsouldbenefitfrommoreclarityto ensurethatcomplexconceptsarecommunicatedeffectively.</p>	
<p><b>Isthetitleofthearticlesuitable? (Ifnotpleasesuggestanalternativetitle)</b></p>	<p>Thearticleofthearticle,"<b>Amoredetailedphysicalexplanationofanaircraftfluttermechanism- PartII: The conceptofStructuralActuatorSaturation</b>,"isinformativebutcouldbemoreconciseandengaging. A suggestedalternativetitle couldbe:"<b>UnravelingAircraftFlutter:TheRoleofStructuralActuator SaturationinAeroelasticInstabilities.</b>"</p>	
<p><b>Istheabstractofthearticlecomprehensive?Doyou suggesttheadition(ordeletion)of somepointsinthis section?Pleasewriteyoursuggestionshere.</b></p>	<p><b>Suggestedrevision:</b>Theauthorsshouldadda line aboutthesignificanceofthisnewanalysisapproachin contributingto saferaircraftdesignor guidingfuturesresearchinaeroelasticstability.</p>	
<p><b>Aresubsectionsandstructureofthemanuscript appropriate?</b></p>	<p>Themanuscript'sstructureisappropriate,but<b>Section5 (ResultsandAnalysis)</b>and"<b>Detailedphysical explanation-Part2</b>"couldbenefitfromclearersubheadingsandbetterintegrationoffigureswithintherelated text.</p>	
<p><b>Pleasewritea fewsentencesregardingthescientific correctnessofthismanuscript.Whydoyouthinkthat thismanuscriptisscientificalllyrobustandtechnically sound?Aminimumof 3-4sentencesmayberequired forthispart.</b></p>	<p>Themanuscriptappearstobescientificalllyrobustandtechnicallysound,asit buildsuponestablishedaeroelastic theorieswhileintroducingtheconceptof structuralactuatorsaturationtoexplainfluttermechanisms.It demonstratesa well-reasonedapproachbyintegratingtheoreticalanalysiswithnumericalsimulations,supported bydataanddampingratios,phasedifferences,andmodebehavior.Thedetaileduseofeigenvaluesand eigenvectorsdistinguishbetween torsionalandbendingmovementsaddsdepthtotheanalysis,ensuringthat findingsarewell-substantiated.Additionally,thereferencetopriorresearchandtheinclusionofmethodological rigorstrengthensthepaper'sscientificvalidity.</p>	

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<p><b>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</b></p> <p>-</p>	<p>The manuscript's references are comprehensive and include foundational works in aeroelasticity. However, incorporating more recent studies would enhance the paper's relevance and depth. For instance, the article "<b>Active Flutter Suppression: Are we reactive enough?</b>" by <b>Boris Micheli</b>, published by the German Aerospace Center (DLR) in 2022, offers insights into performance losses due to actuator saturation in active flutter suppression systems (Reference link: <a href="https://www.dlr.de/en/ae/latest/technical-articles/active-flutter-suppression-are-we-reactive-enough">https://www.dlr.de/en/ae/latest/technical-articles/active-flutter-suppression-are-we-reactive-enough</a>).</p> <p>Additionally, the paper "<b>Fault-Tolerant Control for Wing Flutter Under Actuator Faults and Time Delay</b>" by <b>M.Z. Gao and G.P. Cai</b>, published in the Journal of Vibration Engineering &amp; Technologies in 2018, discusses control strategies for wing flutter considering actuator faults and time delays (Reference link: <a href="https://link.springer.com/article/10.1007/s42417-018-0061-0">https://link.springer.com/article/10.1007/s42417-018-0061-0</a>).</p>	
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Minor REVISION comments

**Is the language/English quality of the articles suitable for scholarly communications?**

The language quality of the article is generally suitable for scholarly communication, with well-structured sentences and technical terminology appropriate for an academic audience. However, there are some areas where minor revisions could improve clarity and readability. For instance,

**In Lines 2-3 of Abstract section:** The sentence "Each dynamic mode (aeroelastic) is made up of torsional and rotational movements" could be revised to "Each aeroelastic mode consists of torsional and rotational movements."

**In Page 2, Line 17:** The phrase "Although it was pronounced almost fifty years ago" should be corrected to "almost fifty years ago."

**In Page 8, Lines 9-10 of Section 5 (Results and detailed physical explanation – Part 1):** The sentence "The idea used to explain the physical mechanism was to find a flutter condition and understand what is happening in each part of the aircraft structure" could be rephrased as "The approach aimed to identify the flutter condition and analyze the behavior of each part of the aircraft structure."

**In Page 13, Line 14:** The sentence "This large change can cause the instability seen" could be refined to "This significant change may lead to the observed instability."

**Page 2, Figure 1:** Remove the URL and ensure that the reference (Saemeil, 2007) is properly cited, as the source is already included in the reference list.

**Page 6, Figure 4:** Similarly, remove the URL for (Multiply Leadership, 2012) and retain only the citation within the figure caption, as it is already cited in the references.

The authors should ensure consistent use of either 'Fig.' or 'Figure' throughout the manuscript for all figure references. For example, on Page 8, Line 13, 'Figure 8' should align with the chosen format (e.g., 'Fig. 8'). Similarly, on Page 9, 'Figure 9' and 'Figure 9(a)' should be consistent (e.g., 'Fig. 9' and 'Fig. 9(a)'). On Page 12, references to 'Figure 8' and 'Figure 9' should also match the format used elsewhere in the manuscript.

The authors should review and revise their in-text citations for conformity to APA style guidelines, ensuring proper formatting such as consistent use of commas, ampersands, and correct author-year arrangements. Here are specific examples and corrections:

- (Cesnik, 2023, Palacios and Cesnik 2023) should be (Cesnik, 2023; Palacios & Cesnik, 2023).
- (Wright, Cooper, 2007) should be (Wright & Cooper, 2007).
- Siqueira et al., (2019, 2024) should be Siqueira et al. (2019, 2024).
- (Brown, 2003, Shearer, 2006, Su and Cesnik, 2008) should be formatted as (Brown, 2003; Shearer, 2006; Su & Cesnik, 2008).
- Brown, (2003), Shearer, (2006), and Su, (2008), Ribeiro, (2011) and Sousa, (2013) should be Brown (2003), Shearer (2006), Su (2008), Ribeiro (2011), and Sousa (2013).
- (National Research Council, 1997), (Ashkenas, et al., 1964) should be (National Research Council, 1997; Ashkenas et al., 1964).
- (Duda, 1995, 1998, Gilbreath, 2001) should be (Duda, 1995, 1998; Gilbreath, 2001).

The authors need to carefully review each citation to ensure proper punctuation, consistent formatting (e.g., "et al." vs. "et. al."), and adherence to APA rules, such as using ampersands (&) in parenthetical citations and "and" in narrative citations.

The references do not fully comply with APA style. Here are specific issues and suggested corrections:

- **Capitalization:** Reference titles should use sentence case, where only the first word and proper nouns are capitalized (e.g., "Flutter analysis tools in a nonlinear structural-flight dynamics numerical platform").
- **Author Formatting:** Ensure the proper use of initials and surname formatting (e.g., "Siqueira, L.F.R." instead of "Siqueira, L.F.R.").
- **Consistency in Year Placement:** The publication year should immediately follow the authors' names (e.g., "Siqueira, L.F.R., Sousa, M.S., & Junior, S.S.C. (2019).").
- **Italicization:** The titles of conferences, journals, and books should be italicized as per APA style (e.g., *25th ABCM International Congress of Mechanical Engineering (COBEM-2019)*).
- **URLs:** Ensure URLs do not include hyperlinks in the body text but are cited appropriately in the references without "Accessed on" dates unless required.
- **Spacing and Punctuation:** Consistent use of spaces and commas should be verified throughout the references.

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<b>Optional/General</b> comments	The authors may consider expanding on the practical implications of their findings or proposing experimental validation in future research. Discussing how these insights can be applied to current aircraft design practices or integrated into predictive software tools could further emphasize the study's relevance.	
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**PART 2:**

	<b>Reviewer's comment</b>	<b>Author's comment</b> (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>Are there ethical issues in this manuscript?</b>	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	

**Reviewer Details:**

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