Dear Reviewer:

Thank you very much for your comments. We would like to submit the revised manuscript entitled “Fiber Bragg Gratings Sensors for Aircraft Wing Shape Measurement: Recent Applications and Technical Analysis” for consideration by “Sensors”. We would like to thank your thoroughly reviewing on our manuscript and making thoughtful comments and valuable suggestions. We have revised the manuscript to address your comments. Here are our point-by-point responses:

The authors present a review of aircraft wing deformation using fiber optic sensors (FOSs). Overall, the use and application of FOSs for aircraft monitoring, in particular wings, is an interesting research topic due to the potential benefits and advantages of these sensors over more traditional techniques. However, some areas of the paper need clarification and improvement. The authors are invited to consider the following points, make suitable modifications and resubmit the paper.

—— The authors target "wing deformation" as an application, and in particular aircraft wings; this should already be clear in the title ("aircraft wing deformation"); also, "deformation" is quite generic: it may refer to load or vibration measurement and may be useful for shape or defect detection, for on-ground or in-flight tests; it is suggested to be more specific on the application cases and related specifications that the authors wish to discuss in their paper.

   Reply: Thank you very much for your thoughtful comments and valuable suggestions. According to your suggestions and comprehensive analysis, the title of the paper should be revised as “Fiber Bragg Gratings Sensors for Aircraft Wing Shape Measurement: Recent Applications and Technical Analysis” and the target is “wing shape measurement”. More specific on the application cases and related specifications have been discussed and I will describe it further in the following reply.

—— There exist different types of fiber optic sensors, but the focus of the paper appears to be specifically on Fiber Bragg Gratings sensors (FBGs): this should also be made clear in the title and abstract.

   Reply: Thank you very much for your valuable suggestions. According to your suggestions, we have revised the abstract and focused on FBGs.

—— "Introduction" section: although there is certainly interesting work ongoing in the US on the subject of the paper, the topic is of general interest and there is a great amount of research in Europe or Asia as well; it is suggested to re-write this section using some of the mentioned cases (US aircrafts) just as possible examples.

   Reply: Thank you very much for your valuable suggestions. According to your suggestions, we further reviewed the application of FBG technology in the field of aircraft research in the US, and then selected several representative cases for analysis to pave the way for the introduction of the
following content.

—-Table 1, page 4: this table is rather unclear and incomplete: there are many more fiber optic sensors types (for example long period or chirped FBGs) and application areas as well as optical characteristics to be considered - it is suggested to remove the table and be more clear on the type of FBG targeted in the paper together with their main features and advantages.

Reply: Thank you very much for your valuable suggestions.
According to your suggestions, we have removed this unclear table and add more analysis of the types of FBG.

—-Sections 2 and 3, particularly on multiplexing technologies and strain transfer of adhesively-bonded FBGs, appear to be weakly linked to the main focus of the paper, i.e. wing deformation monitoring; the authors should explain when and where multiplexing can be useful in relation to the specific application discussed in the paper (please refer to the first point cited above) and add some considerations on the technologies available for multiplexing (there has been much research going on to optimise interrogators depending on the number of sensors needed and the frequency range of interest); the sections on strain transfer is also quite generic and should be better linked to the requirements of the target applications - for example, in the case of composite structures the sensors can also be embedded in the material; however, there is no mention on that in the paper, whilst composite materials are increasingly used for aircraft structures.

Reply: Thank you very much for your valuable suggestions.
According to your suggestions, we add more information on multiplexing technologies and add embedded FBG analysis in the following section.

—-the term "gate" is used extensively in the paper; does it refer to the grating area?

Reply: Thank you very much for your valuable suggestions.
According to your suggestions, we change “gate” into “ grating area”.

—-Section 4 on other measurement methods: not all the cited methods are suitable for in-flight measurements; in this case too the authors should be more clear regarding the objective of their discussion: are they considering sensing technologies useful for on-ground tests (like wind tunnel tests, for example) or for real-time, in-flight monitoring of wings?

Reply: Thank you very much for your valuable suggestions.
In this part, we want to express that there are many methods of wing shape measurement, and other methods sometimes have certain environmental constraints. Then we introduce the advantages of FBG measurement technology. Then revising the paper according to your suggestion.

—-Section 5: the work cited refer to different application cases; each case should be discussed in more depth considering the test purpose, the interrogator and type/number of sensors used (this information is not always discussed), whether they were bonded and how, etc.
Reply: Thank you very much for your thoughtful comments and valuable suggestions.

According to your suggestions, we have rewritten this section to discuss in more depth considering the test purpose, the interrogator and type/number of sensors used. We also discussed the bonding technology.

—— “Conclusions” section: the remarks appear to be weakly related to the overview reported in the previous sections mainly due to lack of information (see point above); it is suggested to re-write this section based on a more critical description of the work cited in bibliography with a more clear identification of the monitoring purposes.

Reply: Thank you very much for your valuable suggestions.

According to your suggestions, we have rewritten the “Conclusion” and added description of the work cited in bibliography with clear identification of the monitoring purposes.

We try our best to improve the paper with your suggestions and we hope the quality of the paper can be further improved by your suggestions.

Thank you for your revision of our manuscript.