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| Book Name: | [Engineering Research: Perspectives on Recent Advances](https://www.bookpi.org/bookstore/product/engineering-research-perspectives-on-recent-advances-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_3903** |
| Title of the Manuscript:  | **An Analysis of Chip Formation and Hole Circularity in Drilling Applications: An Aircraft Components Perspective** |
| Type of the Article | **Book chapter** |

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| PART 1: Comments |
|  | Reviewer’s comment | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This manuscript is highly significant for the scientific community as it provides a comprehensive analysis of chip formation and hole circularity in drilling processes, particularly for aircraft component manufacturing. By investigating the influence of feed rates and spindle speeds on drilling performance, the study offers valuable insights into optimizing machining parameters to achieve superior hole quality. The use of advanced monitoring tools, such as CIMCO MDC-MAX, highlights the role of real-time machine performance data in enhancing productivity and precision. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | **It is ok or the author may consider this title "Optimization of Drilling Parameters for Enhanced Hole Circularity and Chip Formation in Aircraft Component Manufacturing"** |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | **It is ok** |  |
| **Is the manuscript scientifically, correct? Please write here.**  | **It needs some revision.** |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | **References are not properly formatted** e.g. " Gardiner, Ginger. “Hole Quality Define" CompositeWorld. 2014.https://www.compositesworld.com/articles/hole-quality-defined; like no Page no, volume no etc.;The authors are advised to consult the following literature for reference and inclusion:1. Zhang, Z., Xu, S., Chen, Y., and Zhang, L. Behaviour of deficient slabs retrofitted with FRP subjected to monotonic and cyclic loadings, Construction and Building Materials, 287, 2021
2. T. Barik, and K. Pal, Prediction of drilled hole quality in bidirectional woven carbon fiber reinforced plastic using wavelet packets of force–torque signals, J. Reinf. Plast. Compos., vol. 40, no. 21–22, pp. 800–826, 2021.
3. T. Barik, and K. Pal, Prediction of TiAlN- and TiN-coated carbide tool wear in drilling of bidirectional CFRP laminates using wavelet packets of thrust–torque signatures, J. Brazilian Soc. Mech. Sci. Eng., vol. 44, pp. 1–30, 2022.
4. Al-Mahaidi, R., Al-Nuaimi, A., and Al-Amoudi, Experimental study on the flexural behavior of RC slabs strengthened with near-surface mounted CFRP, Construction and Building Materials, 180, 446-456, 2018
5. Almusallam, M., Al-Mahaidi, R., and Al-Amoudi, Strengthening of RC slabs using CFRP: A state-of-the-art review, Construction and Building Materials, 112, 1007-1023, 2016
6. Barik T, Pal K. Sensor-based strategies for accurate prediction of drilled hole surface integrity of CFRP/Al7075 hybrid stack. Mechanics of Advanced Materials and Structures. 2022
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| Is the language/English quality of the article suitable for scholarly communications? | **It is ok** |  |
| Optional/General comments | 1. What is the main focus of this study, and why is it significant for the aerospace industry?
2. Describe the experimental setup, including the tools and materials used for drilling.
3. How does feed rate influence hole circularity and chip thickness during the drilling process?
4. What role does vibration and clamping play in the quality of drilled holes?
5. Explain the relationship between chip formation and hole circularity. Why are certain chip shapes preferred?
6. How does machine performance, as monitored by CIMCO MDC-MAX, correlate with hole quality in this study?
7. Based on the findings, which feed rate was identified as optimal, and why?
8. What practical recommendations does this study provide to improve drilling processes in aerospace manufacturing?
9. How might improper clamping or machine misalignment affect the structural integrity of aircraft components?
10. What additional variables or methods could be investigated to further enhance hole quality in future studies?
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| **PART 2:**  |
|  | **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)*** |
| **Are there ethical issues in this manuscript?**  | ***(If yes, Kindly please write down the ethical issues here in details)*** |  |

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| **Reviewer Details:** |
| Name: | **Tarakeswar Barik** |
| Department, University & Country | **Bhubaneswar Institute of Technology, India** |