

Review of: "Optimized Material Removal and Tool Wear Rates in Milling API 5ST TS-90 Alloy: AI-Driven Optimization and Modelling with ANN, ANFIS, and RSM"

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Potential competing interests: No potential competing interests to declare.

I went through the manuscripts titled "Optimized Material Removal and Tool Wear Rates in Milling API 5ST TS-90 Alloy: AI-Driven optimization and modelling with ANN, ANFIS, And RSM" and found it interesting. The goal of the research is to provide a detailed analysis of the use of ANFIS, ANN, and RSM in the predictive modelling of material removal and tool wear rates in milling API 5ST TS 90 alloy. For which, the authors conducted twenty (20) experimental runs using a 10 mm HSS end-mill cutter and These experiment was designed using Central Composite Design (CCD) in Design Expert 14 software. There are a few improvements I would like to suggest to improve the manuscript. It would be helpful if the authors considered these suggestions prior to final acceptance.

What is the novelty of the research as the authors have mentioned in the introduction section that "The use of ANFIS in modelling the optimization of machining parameters in milling processes was reported by Shukry et al. (2018) and Sandeep et al. (2019) for MRR, while ANN was reported by Salimiasi and Özdemir (2016) and Bagga et al. (2021) for TWR, and RSM was reported by Zhang et al. (2019) for MRR, Wickramarachchi et al. (2021) for TWR and Hsu & Nguyen (2017) for MRR." As all of the optimized tools are already implimented for optimisation of MRR abd TWR.

Table 1 and Table 2 contain very less data. The authors can merged these table or they can explain the content of the table in the main text by completely removing it.

RMSE is not a unitless statistical error indicator. Kindly note and provide the unit in Table 10.

Try to explain the uses of the 3D plot (Figure 5 - 7) deeply. What are the need of these plots?

The results of sensitivity analysis is presented in Table 11 and indicated that the depth of cut had the highest influence on the material removal rate, while the spindle speed was the least dominant factor among the factors considered in the milling process. Kindly explain the process and mechanism on which basis they concluded this statement.