

Review of Paper infrastructures-2260555 “PREDICTION OF STRAIN IN EMBEDDED REBARS FOR RC MEMBER, APPLICATION OF HYBRID LEARNING APPROACH”

Summary

The reviewed paper “Prediction of strain in embedded rebars for RC member, application of hybrid learning approach” proposes a hybrid learning approach to predict strains on embedded reinforcement based on surface deformations, monitored by digital image correlation. By adopting machine learning regression techniques, the author reduced modeling complexity caused by the tension stiffening effect. The proposed method can reasonably predict strain on embedded reinforcement.

In the reviewer’s opinion, this is a well-written paper, and the topic is generally relevant to the scope of MPDI Infrastructures; however, it is recommended that the draft is carefully revised according to the following a few minor comments before considering it for publication.

Minor comments

1. Figure 12 displays the predicted strain obtained from the proposed equation, which exhibits a varied trend based on the loading magnitudes. Specifically, when the loading magnitude is 23kN, the predicted strain closely aligns with the strain monitored by Digital Image Correlation (DIC). Conversely, under higher loadings such as 94.2kN, the predicted strain is more in line with the strain monitored by Strain Gauges (SGs). Please address this tendency of bias.
2. Use scientific notation for the following:
 - Line 222: 7,14 pixels -> 7.14 pixels
 - Line 223: 59,0% -> 59.0%
 - Line 248: mm2 -> mm^2
3. The table in line 264 should be Table 4. Also, the table title must be corrected.
4. An additional explanation for the Table 4 must be provided.