

Editorial

We bring the first issue of the twelfth volume of the **Transactions in Machine Design** with the below research papers.

In the opening paper, **“Improvement of the Test Method for the Thermal Integrity of Cast-in-place Pile Tip: Optimizing the Layout of Temperature Measuring Points,”** the authors stated that detecting defects in pile foundations is highly complex. They proposed a new detection method called thermal integrity detection. The authors viewed that the new measurement points can avoid irrelevant factors in the finite element inverse analysis of the pile foundation temperature field. The complexity of the finite element inverse analysis is greatly reduced during the testing, and the accuracy of defect location and size identification is improved.

In the next paper, **“Production efficiency estimation of China’s construction industry and its influencing factors based on the DEATobit model using the DEA-Malmquist index method,”** the authors measured the production efficiency of China’s construction industry transversely and longitudinally. In the experimentation process, the authors found the average production efficiency of China’s construction industry. The authors claimed that it will improve the ecological efficiency of China’s construction industry.

In the last paper, **“Performance evaluation of high-speed railway construction projects based on combinatorial weighting and mutation progression method,”** the authors designed and introduced the performance evaluation index system. The purpose of this evaluation method is to get the combined weights of each index by combining the entropy evaluation method with subjective and objective factors. Then it judges the performance level of high-speed railway construction projects by combining the mutation sequence method. This model has a positive promoting role in improving the implementation effect and influence of railway construction projects.

We hope the published research is interesting and leads to wider reading.

Editors