

## **Low-cost Continuous Welded Rail Track Structure Suitable for Regional Railways**

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Rail joints are a weakness in tracks on regional railways. However, existing continuous welded rail track structures are designed for trunk lines, and would be difficult to introduce on regional railways given the high implementation cost. In the proposed track structure, some wooden sleepers are replaced with PC sleepers, while the soil/ballast mix is kept as it is, and joint depressions are sectioned off and welded. In order to maintain the lateral stability is guaranteed by adding cement to the ballast through stabilizing reinforcement. The developed continuous welded rail track structure was used to build a full size track model, and rail heating tests were conducted. The results confirmed that after the lateral ballast resistance force reinforcement work was done, no buckling occurred.