

A Selection Method of Repair Spot of CA Mortar Layer Based on Track Slab Displacement

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When the supporting condition of the track slab by CA mortar layer changes, the track slab may be cracked, cause its need of repair. Because, the laid extension of the slab track is very long, the amount of necessary repair may become very large. Therefore, railway operators need to decide the priority of repair, and carry out preventive maintenance repair. Firstly, we measured the slab track state on the business line and found that the gap between track slab and CA mortar layer increased the displacement of the track slab. Next, we confirmed that as a loading test on slab track model specimens with different support conditions and an analysis by FEM, the load at which the track slab reaches a limit state becomes smaller at the gap. Furthermore, we have developed a FEM model of the slab track so that we can calculate the displacement of the track slab when it reaches the limit state. We proposed a method to select the position requiring repair based on the displacement calculated by this FEM model.