

**Verification Test of the Buckling Reproducibility of a Ballasted Track on the Embankment at the  
Abutment Backfill and the Countermeasures against the Buckling by a Large Shaking Table**

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If the lateral resistance force of the ballasted track is decreased by the subsidence of the abutment backfill due to the earthquake, the risk for the track buckling will increase. Then, an integrated embankment / track model was tested on a large shaking table, to reproduce abutment backfill subsidence and track buckling, and to investigate the effectiveness of the anti-buckling countermeasures proposed. As a result, when the abutment backfill alone was reinforced (without track reinforcement) and a large earthquake more than the L2 earthquake was simulated, track buckling occurred. However, in cases where with anti-buckling plates were added to each end of each sleeper, and a ballast retaining wall was fixed to the contiguous pile wall, no buckling occurred under the same seismic condition.