

**Estimation Method of Plastic Deformation of Ballasted Track
under Cyclic Moving Wheel Loads by FE Analysis**

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This paper presents a simple method to estimate cyclic plastic deformation of ballasted track subjected to repeated train passages in terms of the strength and deformation characteristics of railroad ballast. We proposed a new analytical procedure with linear elastic FE analysis considering the cumulative strain derived from multi-ring shear test results of railroad ballast, and it revealed that the analytical procedure could roughly estimate the residual settlement of railroad ballast under cyclic moving wheel loads, by comparing the results of small-scale model tests of ballasted track with the analytical results.