

Field Investigating the Effects of Lateral Support Elements on Lateral Resistance of Ballasted Tracks with Sharp Curves

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Abstract : Lateral movement of CWR ballasted track occurs in sharp curves because of the lack of adequate lateral resistance. Several strategies have been proposed and used for increase the lateral resistance of ballasted tracks, but still there are some problems in tracks with small radius curves. In this paper, a new method has been presented for increase the lateral resistance. This method is using the lateral supports as numerical and field studies. In this paper, the field and laboratory tests have been conducted by using the single tie pressure test (STPT) and track panel loading test (LTPT). Then, their results were compared with the numerical results. The results of numerical and field tests showed that the lateral stiffness of ballasted tracks significantly increased when there were lateral supports in ballasted tracks. Also, the track structure had a bilinear behavior.

Keywords : ballasted railway, Lateral resistance, railway buckling, field and numerical studies

Conference Title : ICSRD 2020 : International Conference on Scientific Research and Development

Conference Location : Chicago, United States

Conference Dates : December 12-13, 2020