

عنوان مقاله:

Seismic Behavior of Railway Superstructure

محل انتشار:

چهارمین کنفرانس بین المللی مقاوم سازی (سال: 1391)

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خلاصه مقاله:

Railways have always been designed on the basis of experiences from pervious designs. With the coming of new types of superstructures, i.e. ballast less track, combined with a new field of application, i.e. high speed lines, the empirical design method is no longer applicable. The uses of computer models which predict the dynamic behavior of the track and the vehicle have become necessary for designing this kind of track to ensure a save and trouble free exploitation. In this paper a ballast less track with continuous support, the embedded rail structure or ERC, is modeled with the use of the computer program 'Rail'. Laboratory tests are carried out for the validation of the computer model. The dynamic behavior of the ERC is compared to that of a classic ballasted track. The frequency response functions and the distance damping as well as accelerations of a simplified vehicle are determined and compared. Furthermore a simulation of a complete Thlys high speed train running at high speed over the ERC is made giving information on the dynamic behavior of the track and comfort level for the passengers, the latter determined as acceleration levels in the vehicle

کلمات کلیدی:

dynamic track analysis, distance damping, vehicle track interaction

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