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Titel des Beitrags: Soil-structure interaction of tunnel-structures under consideration of far- and near-field effects

Abstract: The response of a tunnel structure under a moving and oscillating dynamic load can be calculated by means of a hybrid Integral-Transformation-Method-FEM approach. In the ITM approach analytical solutions of ideal geometries of the infinite continuum are superposed such that the wave-number impedance and transfer-function at the interior of a circular tunnel can be calculated efficiently. By this means the infinite continuum can be coupled to an arbitrary tunnel structure which is modelled by the FEM with corresponding form-functions. In order to reduce the effort for the coupling, the characteristics of the analytically given transfer-functions which can be split into near- and far-fields is taken into account.

Stichworte: ITM, soil structure interaction, far field, near field

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