

FRICITION EFFECT UPON THE NONLINEAR
VIBRATIONS AMPLITUDE OF STRUCTURAL
ELEMENTS CONTACTING WITH MEDIUM USING
WINKLER'S NONLINEAR MODEL

Abstract

In the paper we study friction effect upon the nonlinear vibration amplitude of structural elements contacting with medium. Under great loads the points of piles perform wide range of permutations, i.e. it is appropriate to calculate the piles within geometrically nonlinear theory. Analysis of loads affecting upon single piles shows that deflection is the prevalent component of permutation vector of pile's point. We use Winkler's nonlinear model to describe soils effect upon the behavior of a pile.