# EFFECT OF INHERENT ANISOTROPY ON FLUTTER INSTABILITY IN HYPOPLASTICITY

B. WEINGARTNER, V. A. OSINOV, W. WU

Institute of Geotechnical Engineering
University of Natural Resources and Applied Life Sciences
Feistmantelstr. 4, A-1180 Vienna, Austria
bernhard.weingartner@boku.ac.at

Generally soils possess an inherent fabric with transverse isotropy on the bedding plane. As a consequence, the deformation-strength characteristics show a dependence on the loading direction. Anisotropy is characterized by a vector normal to the bedding plane and has recently been incorporated into the framework of hypoplasticity in an elegant way [1]. Due to the fact that no decomposition of strain in elastic and plastic part is necessary, a unified treatment of deformation and strength is possible.

In this paper we investigate flutter instability by calculating wave speeds of plane acceleration waves. For a hypoplastic material we find continuous wave speed spectra which is in contast to the discrete spectra observed in linear constitutive models [2]. Flutter instability arises when the equations for the wave speeds yield complex solutions. In analogy to the failure surface, a surface of first occurence of flutter instability in the three-dimensional stress space can be constructed. We analyse the influence of anisotropy on these surfaces and the change of their shape and symmetries depending on the so called bedding angle. Thus we get a perception of the salient behavior of anisotropic soils.

**References**

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