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ABSTRACT

Various plasticity models, e.g. Mróz (multi surface) model, Dafalias (two surface) model, Chaboche (superposed kinematic hardening) model, Hashiguchi (subloading surface) model and their various modifications have been proposed to describe the monotonic and the cyclic loading behaviors of various materials, e.g. metals, soils, rocks, concrete, etc. during the past half century as reviewed in the references [1], [2], etc. Further, various viscoplastic models based on the creep (Norton-Odqvist) model and the overstress (Bingham-Prager-Perzyna) model have been proposed. Some of these models are standard-installed into the commercial FEM softwares, e. g. Marc, Abaqus, LS-DYNA, PAM-STAMP, etc. and used widely for the mechanical design in industries. The presentations of the modified or new plastic and viscoplastic models and the simulations of test data by these models and their applications to the analyses of various boundary value problems are desirable in this invited session. Their merits, demerits and further development will be discussed in detail for the sound and steady development of the plasticity and viscoplasticity theories and of the engineering practice.

REFERENCES

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