Summary

Aim of this study is to characterize asymptotic states of particulate materials, including states in extension. Asymptotic states are defined as states reached after a sufficiently long stretching with a constant direction of the strain rate. They are attractors in the behaviour of granular material and they are reached independetly of the initial state. Discerete element method is used in the simulations, where the influence of strain rate direction on the final state is studied. Results for strain rate direction higher than 0 obtained by Mašín (2012a) are then compared with results for strain rate direction lower than 0. These sets of results coincide qualitatevely.