# 以元素試驗法推導擋土牆之破壞位移量

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## 摘要

In Taiwan, a number of sewerage terminal treatment plants are planned to construct at or near the seashores. Most of the western Taiwan seashores are sandy beaches. The poor engineering properties of beach sand are due to poor gradation, low relative density and low shear strength. Retaining structures, such as retaining walls, basement walls, and bulkheads, are commonly encountered for specified civil work projects. Thus, the safety of these retaining structures should be researched. Therefore, this study employs an element method for deriving the active failure displacement of retaining wall .

In this study, an automatic triaxial test system is developed in order to test the behaviors of consolidation and lateral extension for saturated Ottawa sand. Then, the shear behavior of backfill while retaining wall rotates about its base could be simulated by means of test. While the retaining wall rotates, its stress will undergo changes from the states of to active. The relationship between axial strain and effective deviator stress of specimens are observed to find their active failure radial strains . Then, the value of corresponding to specified could be calculated with the geometric retaining wall - backfill system. Practically, the values of could be applied to served as a monitoring factor.

關鍵字：Saturated sand, lateral expansion behavior, retaining wall, failure strain.