Geologic Modelling of accretionary process

Yasuhiro Yamada[1]; Satoshi Ueda[2]; Kokoro Kaneda[3]; Toshifumi Matsuoka[4]

[1] Civ. Earth Res. Eng., Kyoto Univ.; [2] Department of Civil and Earth Resources Engineering,Kyoto Univ; [3] Civil and Earth Resources Eng., Kyoto Univ.; [4] Kyoto Univ

http://earth.kumst.kyoto-u.ac.jp

The accretion process of sediments at subducting margins can be modelled and examined by using analogue experiments and numerical simulations. Previous research suggests that granular materials can appropriately model the upper crustal deformation, which characterised by brittle (frictional) behaviour.

This presentation includes some of our results of experiments and simulations. The experiments employed dry sand and micro beads as the materials, whereas the numerical simulations were performed with Discrete Element Method (DEM) simulators. Combing the both results, detailed pictures can be obtained including the internal deformation of accretionary prisms, such as progressive development of faults and surrounding stress fields.