



Analogue scale modelling of extensional tectonic processes using a large state-of-the-art centrifuge

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Analogue scale modelling of extensional tectonic processes such as rifting and basin opening has been numerously conducted. Among the controlling factors, gravitational acceleration (g) on the scale models was regarded as a constant (Earth's gravity) in the most of the analogue model studies, and only a few model studies considered larger gravitational acceleration by using a centrifuge (an apparatus generating large centrifugal force by rotating the model at a high speed). Although analogue models using a centrifuge allow large scale-down and accelerated deformation that is derived by density differences such as salt diapir, the possible model size is mostly limited up to ~ 10 cm. A state-of-the-art centrifuge installed at the KOCED Geotechnical Centrifuge Testing Center, Korea Advanced Institute of Science and Technology (KAIST) allows a large surface area of the scale-models up to 70 by 70 cm under the maximum capacity of 240 g-tons. Using the centrifuge, we will conduct analogue scale modelling of the extensional tectonic processes such as opening of the back-arc basin.

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