

GSC022-P05

Room:Convention Hall

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Development of the "Turbidite stick" for a Geoscience educational material (Geotoy)

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On July 24, 2010, we held challenge corner for children as "Secrets of sediment gravity flow which are studied from easy experiments" in AIST public exhibition. We were prepared five experimental devices to clearly explain for the relationship between sediment gravity flows and other natural disasters such as sedimentary processes of debris flow, landslide and turbidity current. Yoshikawa developed the "Turbidite stick" as a new Geotoy. In our presentation, we want to demonstrate it for Geoscience educators.

The main body was made of an acrylic pipe (21mm diameter, 1000mm long), which was purchased from the home center in Tsukuba. Then both end of the pipe were prevented water leakage into the caps. Mixing particles were enclosed in the pipe, such as beach sand and dune sand from Ajigaura coast, fluvial gravel from the downstream of Nakagawa River, various types of color sand and glass beads were purchased from the same home center in Tsukuba. Then we repeatedly tried into the mixing sand grains in the pipe during preliminary experiments. As a result, mixing ratio as 48% fine gravel river (diameter 5mm), 29% coarse sand beach (diameter 1mm), 23% fine glass beads (diameter 0.2mm) was best mixing rate. In particular, we were able to reproduce the behavior of suspending particles in flow condition by mixing glass beads into natural sands and gravels.

From several Geoscience educators have already contacted us about how to obtain "Geotoy". According to their comments, we try to consider the commercialization of it in future.



Keywords: Geoscience educational material, Geotoy, Turbidite stick, sediment gravity flow, natural hazard, development