

G120-001

Room: 202

Time: May 25 9:00-9:13

Geological records of the long-term waves and condition of "giant-ripple" formation

Keisuke Taniguchi[1]; Fujio Masuda[2]; Tomohiro Takagawa[3]

[1] Earth and Space Sci., Osaka Univ; [2] Dept. Geol. and Mineral., Grad. Sci., Kyoto Univ.; [3] Civil Engineering, University of Tokyo

"Giant ripples", which consist of sand-size grains, with long spacing of over 1 m, high steepness and high symmetric shape were formed under long-term oscillatory wave conditions with more than 20 seconds in period in a circular water flume. The long-term wave was required in order to keep the orbital diameter large and prevent the erosion of the crest by the wave with high flow velocity. We discovered giant ripples in the Shimousa Group, although Allen and Hoffman (2005) claimed that the long-term waves could be generated in special circumstances in the Late Precambrian time. The long-term waves might be caused by processes such as the formation of composite waves of multiple waves.

Allen and Hoffman (2005) Extreme winds and waves in the aftermath of a Neoproterozoic glaciation. *Nature*, 433, 123-127.