
[EJ] Evening Poster | H (Human Geosciences) | H-CG Complex & General

[H-CG24]Earth surface processes related to deposition, erosion and sediment transport

convener:Koji Seike(Geological Survey of Japan, AIST), Naofumi Yamaguchi(Center for Water Environment Studies, Ibaraki University), Hajime Naruse(京都大学大学院理学研究科, 共同), Hideko Takayanagi(Institute of Geology and Paleontology, Graduate School of Science, Tohoku University)
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To understand landscape evolution and dynamics of erosion, transport and sedimentation of earth-surface materials, the latest results of multiple research fields including engineering and earth sciences will be presented. As well as any researches of sedimentology and sedimentary petrology, interaction between fluid, sediments and geomorphology is focused. Interdisciplinary discussions of science, disaster prevention and resource exploration will be expected.

[HCG24-P07]Examination of depositional processes of marine sediments by circulating grain-size analysis

*Go-Ichiro Uramoto¹, Kazuno Arai¹ (1.Center for Advanced Marine Core Research, Kochi University)

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Grain-size analysis of sediment samples has been a practical and efficient sedimentological tool that quickly provide a number of interrelated sediment parameters. It can be particularly powerful in studying the textural characteristics, formative processes, and classifying sedimentary environment. However, recent advances in the understanding of diverse processes of transportation and deposition of grains suggest that grain-size distribution in sediment samples are not necessarily represent the depositional processes of sediments. In particular, as the grain-size analysis of aggregated sediments of fine clastics provide the size of component grains in aggregates, but not the size of aggregates, difficulty is remained in the understanding of depositional processes of such sediments based on the grain-size analysis. Improved measurement technique of grain-size in sediment is necessary for gaining a better understanding of transportation and deposition of sediments by grain-size analysis.

In this study, we developed a circulating grain-size analysis technique that enabled the analysis not only size aggregate, but also the size of component grains in aggregate. Analysis of both aggregate-size and their component grain-size is useful for the constraining depositional processes and physical properties of sediment samples. In this presentation, we will correlate the results of classical grain-size analysis and our improved technique for grain-size analysis, and also the potential of circulating grain-size analysis for the examination of various formative processes of sediments.