

## Possibility of non-destructive, speedy, major element analysis of wet sediment cores by the X-ray analytical microscope

# Yoshiki Kido[1], Toshitada Koshikawa[2], Ryuji Tada[3]

[1] Earth and Planetary Sci., Tokyo Univ, [2] Earth and Planetary Sci.,Tokyo Univ, [3] Geol. Inst., Univ. of Tokyo

Need for the non-destructive, speedy, micro-scale analysis of sediments is increasing due to the demand for high-resolution paleoclimate analysis. Horiba XGT-2700 is widely used for semi-quantitative chemical mapping of rocks, but its application to quantitative analysis of wet sediments is limited due to the effects of the surface condition and the interstitial water. We evaluated these effects and found the surface drying has the largest influence on the X-ray intensities of light elements. The effect can be removed by covering the sample with a Mayler film, but the intensity decreases by < 30%. Effect of water is also significant, and the intensity decreases by < 60% when the water content is 45%. If we can evaluate or remove these effects, application to core samples becomes possible.

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