

Grain size analysis by laser diffraction particle size analyzer.

MORISAWA, Taihei^{1*}, Mori Yasushi², Kaneko Nobuhiro³

¹Faculty of Life and Environmental Science, Shimane University, ²Graduate School of Environmental Science Okayama University, ³Graduate School of Environment and Information Science, Yokohama National University

Grain size analysis is one of the test methods of soil physical property that has been showing many research progresses. General experimental methodology of grain size analysis is determined with reference to Japanese industrial standards (JIS). But this methodology requires great effort and long time in case of carrying out many experiments. In this study, soil grain size was analyzed using laser diffraction particle size analyzer (LDPSA). Through the results, expediency of LDPSA was examined for soil grain size analysis. In the results, there were differences in the amount of fine soil grain in soil samples between JIS methodology and LDPSA methodology. Additionally, fine soil grain increased with decrease in total carbon in the soil samples. Maybe because of soil aggregate was loosed with decrease in TC. With all these factors, it was found that it was difficult form comparison of the results between JIS methodology and LDPSA methodology. However, LDPSA proved useful in transition analyses of same samples.

Keywords: Laser Diffraction Particle Size Analyzer, Grain size analysis, Soil organic matter