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SGL42-P04 会場:3 階ポスター会場 時間:4 月 29 日 18:15-19:30

滋賀県余呉湖細粒堆積物のルミネッセンス年代測定と環境変動解析
Luminescence dating and analysis of environmental change of fine grained sediments from Lake Yogo, Japan

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We applied optically stimulated luminescence (OSL), infrared stimulated luminescence (IRSL), post-IR IRSL (pIRIR) and ^{14}C dating to the sediment core YG11-3 (294cm) from Lake Yogo, Japan. The fine grained quartz and polymineral sample are used for equivalent dose (D_e) estimation. As a result of several basically test, the preheat temperature of 200 ^{o}C for 10 s and a cut heat of 160 ^{o}C were suitable to all OSL measurements. The accepted aliquots are about 90 % per measurement discs and the range of D_e s are 0.3 ˜3.5 (Gy). The bulk ^{14}C ages are ca. 300 years older than these of plant residue. After subtracting this age difference from bulk ^{14}C ages, the corrected ages agree with the OSL ages except the ages of sediments from some depths. Two excepted OSL ages are older than the corrected bulk ^{14}C ages (YG11-3-245, YG11-3-343) and these layers include a lot of plant residue enough to analyze the plant residue ^{14}C ages. It seems that these sediments from two layers have been transported quickly in muddy stream based on a temporary environmental event. Additionally, the result of the $IRSL_{50/225}$ and $pIRIR_{225}$ age confirms the existence of this temporary event. By comparing the OSL ages with ^{14}C, IRSL and pIRIR ages, the quartz from the small catchment area can be applied to reconstruct the age model of sediment core in Japan.

キーワード: OSL 年代測定, pIRIR 年代測定, 湖沼堆積物
Keywords: OSL dating, pIRIR dating, lake sediments