Japan Geoscience Union Meeting 2011
(May 22-27 2011 at Makuhari, Chiba, Japan)

SSS029-P11 会場:コンベンションホール 時間:5 月 23 日 14:00-16:30

中央構造線の断層ガウジにおける岩石-水相互作用：微量元素・同位体分析からのアプローチ
Fluid-rock interaction in the fault gauge of the Median Tectonic Line

松多 範子 [1*], 石川 剛志 [2], 廣野 哲朗 [1], 本多 剛 [1], 西尾 嘉朗 [2], 河本 和朗 [3]
Noriko Matsuta[1*], Tsuyoshi Ishikawa[2], Tetsuro Hirono[1], Go Honda[1], Yoshiro Nishio[2], Kazurou Kawamoto[3]

[1] 大阪大学理学研究科宇宙地球科学専攻, [2] 海洋研究開発機構高知コア研究所, [3] 大鹿村中央構造線博物館
[1]Earth and Space Science, Osaka Univ., [2]JAMSTEC Kouchi, [3]Oshika museum of Japan MTL

Frictional heating during coseismic slip induces transient fluid-rock interaction and fluid transfer. In order to understand these physicochemical process and mechanism, we performed geochemical analyses of major- and minor-element concentrations and Sr isotope. The fault gouge samples used were collected from the Anko outcrop, Nagano prefecture, of the Middle Tectonic Line. Using the fluid-mobile trace element spectrum, which is sensitive to fluid-rock interaction at high temperatures, we estimated that the black gouge experienced frictional heating of approximately 150 degree Celsius. This temperature signal probably indicates that frictional heating have occurred in the gouge together with high amount of coseismic fluid transfer.