

Analysis of pseudotachylyte-like fault material discovered in the Boso peninsula

Yohei Hamada[1]; Tetsuro Hirono[2]

[1] Earth and SpaceScience, Osaka Univ.; [2] Osaka Univ.

Slip of the fault in the shallow portion of accretionary prism contributes to the generation of the tsunami. It is very important to investigate the behavior of the slip of shallow portion of accretionary prism which is fault slip velocity, displacement and so on, to understand tsunami Earthquake. The Emi formation lying at the southeast Boso Peninsula is reported that it formed a shallow part of accretionary prism by previous work, where is a very suitable field to examine whether fault developing to accretionary prism can slip seismically. In this study, we geologized in the Emi formation and discovered pseudotachylyte-like black material from fault which developed here. As a result of optical microscope observation, the decrease of grain size and the forming circular shape of particle were observed in black fault material comparing with host rock, and the form of minute cancellous structure was observed with the electron microscope observation. In addition, we performed the heating experiment using host rock to examine whether this structure was fusion structure with heating, and confirmed this pseudotachylyte-like material could be formed. Based on this result, we constructed the kinetics of the formation of pseudotachylyte and estimated a temperature profile at the time of the earthquake in shallow portion of accretionary prism.