

Direct Observation of Flash Temperature at Frictional Contact During High-Velocity Sliding

*Osamu Kuwano¹

1. Japan Agency for Marine-Earth Science and Technology

Recent experiments conducted at sub-seismic to seismic sliding velocities (mm/s to ms) show the dramatic weakening in the friction coefficient for a wide variety of rock types due to mechanochemical effects by frictional heating. Consequently, several weakening mechanisms have been proposed depending on the type of rock specimens. Some of them are based on the sample observation and analysis after experiments. Direct observation of frictional contacts during an experiment is indisputable to constrain an elementary process at frictional contacts during slip. In this presentation, I'll talk about our recent experiments for direct observation flash temperature at frictional contact during high-velocity sliding

Keywords: High velocity friction, Flash heating, Visualization