

Cloud-to-ground flashes with multiple strokes observed by Broadband Digital Interferometer

*Takeshi Morimoto¹, Ryusuke Saiki¹, Kento Katada¹, Yoshitaka Nakamura², Masahito Shimizu³

1.Kindai University, 2.Kobe City College of Technology, 3.Chubu Electric Power Co., Inc.

It is known that the overwhelming majority of negative cloud-to-ground flashes contain more than one stroke. Some of them create more than one channel termination to the ground with the spatial separation. This paper discusses the precedent and subsequent leader developments of negative cloud-to-ground flashes mapped by Broadband Digital Interferometer. Seven flashes have multiple terminations out of focused 13 negative cloud-to-ground flashes with multiple strokes observed at Gifu prefecture, Japan in summer 2014. In these observations, whether the subsequent leader deflects from the previously formed channel and creates a new termination or follows the previous channel does not depend on the time interval between strokes. Even the events are observed that first and subsequent leader traverse two channels alternately. The mechanism of multiple strokes is very complicated.

Keywords: lightning discharge, multiple storke, broadband digital interferometer