



Analysis on Widely Distributed Shallow Landslides with Stream-Tube Topographical Model

*Daizo Tsutsumi*¹, Rinto Koshi², Kazuki Yamanoi² and Masaharu Fujita¹*

1. Disaster Prevention Research Institute, Kyoto University

2. Graduate School of Engineering, Kyoto Univerisyt

Japan

ABSTRACT

To mitigate the sediment disasters by soft approaches such as early warning or hazard maps, model simulation predicting the shallow landslide is an essential tool. However, conventional models have limitations in simulating widely distributed landslides (e.g., landslide in Izu-oshima, 2013, landslides in Hiroshima City, 2014, Japan). To overcome the limitation, we developed a simulation model based on stream-tube topographical division model, predicting timing of landslide occurrence and amount of landslide mass accurately, and applied the model to the landslide event in Izu-oshima, 2013. Simulated results show that the model appropriately pointed out the positions of landslides at accurate timing, comparing to the actual landslide scars obtained by field investigation. The model will be verified by simulating other widely distributed landslide site (such as Hiroshima landslide, 2014).

KEY WORDS: widely distributed landslides, stream-tube, critical slipsurface, slope stability analysis