Distribution, configuration, and factors controlling slope failures at the 2000 Tottoriken-seibu Earthquake

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Acceleration values due to the 2000 Tottoriken-seibu Earthquake and their distribution are available for discussing the statistical relation between the occurrence of slope failures and values of acceleration, because the earthquake occurred in inland area. Configuration of slope failures and their distribution have been obtained by the interpretation of air photos, which had taken just after the earthquake.

Most of failures are small and shallow even near the epicenter. They tend to occur on convex slopes, and their occurrences also depend on direction of slope face. These are quite different from those due to heavy rainfall. Defining a failure density as the ratio of failure area to unit area, it depends on both maximum horizontal acceleration and slope angle. Based on this relation, it may enable us to construct slope hazard map due to seismic vibration in future.