

**Zischg, A.; Sailer, R. & J. Stötter** (2004): A Risk based Decision Support System for high Alpine Traffic Roads exposed to Avalanche Hazard. Geophysical Research Abstracts 6, 2004.

### **Abstract**

Responsible persons for the security of humans and infrastructure facilities are exposed to various interest conflicts while coming to a decision for risk reduction measures like closing roads or ski areas. By the development of a decision support system which computes constantly the daily possible fatalities on roads due to snow avalanches these persons receive an objective and quantitative decision basis for the justification of decisions and their communication to the people concerned. Several scenarios with alternating input parameters as fracture height and extent/position of release zones were computed with the snow avalanche simulation model SAMOS. Each calculated scenario is related to a release probability, retrieved from statistical analysis of past snow avalanche events. After choosing the release scenario by the user the system computes the length of the affected road track with an avalanche impact force to a car larger than the opposed acting frictional forces between car tires and road surface. The number of potentially affected persons in the endangered road section results from the mean number of car passengers, the speed of the vehicles crossing the avalanche path and the automatically observed daily traffic volume. The product of these factors points out the collective daily death risk on the considered object. Despite the simplifications the computed result essentially reflects the risk situation. The system is built on the successfully applied web-based technology for the 'SIntegrated Risk and Crisis Management Plan (IKMP)' in St. Anton in Tyrol - Austria and well adapted to the situation of the Sulden road in the Ortles Area, South Tyrol - Italy.