
RUNOFF GENERATION MONITORING ON THE HILLSLOPES OF JIZERA AND ŠUMAVA MOUNTAINS USING TRAC- ING EXPERIMENTS FOR MIPS MODEL

KULASOVA, A.¹; BLAZKOVA, S.¹; VLCEK, L.²; JANSKY, B.²

¹TGM Water Research Institute, p.r.i.

²Faculty of Science, Charles University

Keywords: MIPS — hillslope model — tracing experiments —
run-off processes — particle tracking

The contribution presents experiments with artificial rainfall and a tracer in the Jizera Mountains which are indispensable for hillslope modelling with MIPS (Multiple Interacting Pathways [1]). Experiments on 2 hillslopes in the Lužická Nisa catchment in the Jizera Mountains and on one hillslope in the Šumava Mountains are described in detail. MIPS is based on the particle tracking technique and distribution of probabilities. It works with particles (packages of water) in different pathways defined by velocity distribution and transition matrix which represent exchange of water between individual pathways. Output of the MIPS model was shown for experimental slope on the meadow as a computation of the scenario of gradual saturation of slope during rain events, in particular of the first event after a dry period. The results from the field experiments show the difference between the runoff from meadow and forest slopes. In spite of using high intensities and large volumes of water on forest slopes the high infiltration capacities played the decisive role in the forest. The important effect of preferential pathways is probably the main reason.