KINETICS OF HYDRO-GEOCHEMISTRY IN SIMULATED KARST-SOIL SYSTEM AND THE IMPLICATIONS

PAN G. X. TENG Y. ZH. College of Resources and Environment Science, Nanjing Agricultural University, Nanjing, 210095-P.R.C.

Element concentration dynamics during leaching is studied under soil treatments in assimilated lime rock-soil systems. The leaching and release of Ca+2 and HCO3-1, the key elements for karstification, is characterized by a rapidly decreasing phase followed by a phase steady to equilibrium in lower concentrations. Therefore, removal of readily mobile Ca and bicarbonate is involved in the lime dissolution under soil cover conditions as evaluated by karst water chemistry. The enhanced dissolution and adsorption of air CO2 seems to make greater contribution to increased sink effect for air CO2 of karst soil system. Thus, the kinetics of the element leaching would be essential for interpretation of epikarstification and the paleo-climatic records of stalagmites, and hence for assessment of karst system for atmospheric CO2dynamics.Project supported by China Natural Science Foundation (Grant No 49272141). *Present address: Tobacco Extension Station, Qujing Tobacco Factory, Yunnan Province, 655000,China